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Development of Entrepreneurs and Small/Medium Enterprises



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Foreword

These proceedings are the outcome of the 7th international annual conference “Universities, Entrepreneurship and Enterprise Development in Africa” which took place from 13 to 14 September 2018 on the Sankt Augustin campus of the Bonn-Rhein-Sieg University of Applied Sciences.

The conference was developed in the context of the trilateral university partnership project “**German-African University Partnership Platform for the Development of Entrepreneurs and SMES**” between the University of Nairobi, Kenya, the University of Cape Coast, Ghana, and Bonn-Rhein-Sieg University of Applied Sciences, Germany, generously funded by the German Academic Exchange Service (DAAD) and the German Federal Ministry for Economic Cooperation and Development (BMZ). The conference was made possible by further financial support from the Bonn/Rhine-Sieg Chamber of Commerce and Industry (IHK Bonn/Rhein-Sieg).

Our joint project began as a small cooperation to establish incubators at the University of Cape Coast and the University of Nairobi and to learn from each other's experiences in incubation, entrepreneurship and application orientation in teaching and research. In doing so, we have initiated a process of reflection on the role of universities in professional life and the orientation of students and their responsibility for the local economy and society in general. The project aimed to create a platform for actors from different sectors to build networks between universities, students and graduates, companies and government representatives, between Germany and African countries. Each year, our conference has grown as a format for networking and knowledge sharing and has attracted more and more attention and awareness of the possibilities of doing business with African partners. We believe that there is still growth potential and will continue to promote international and cross-sectoral exchange and contribute to the discussion on entrepreneurship and development in Germany and Africa.

The project ended in December 2018. But over the past years of cooperation, our relationship have been strengthened to the extent that we will continue to cooperate at other levels. The conference is just one example of this and will take place next time in Germany at the end of February 2020.



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African entrepreneurs and preparation for the Fourth Industrial Revolution

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Abstract

For years, the common logic that underpinned entrepreneurship was to find a niche within in a market/sector and then solidify business practice to achieve success in the market segment. The dawn of technologically-based disruptive enterprises, such as Uber and Air B&B, coupled with the nearing Fourth Industrial revolution seriously call into question the conventional business logic. In this article, the projected impact of these forces on African entrepreneurs is explored. We look at the role of government, business and education systems to prepare for the impact of the Fourth Industrial revolution. Specific focus is placed on the need for entrepreneurial skills and training to prepare for the impact of the Fourth Industrial revolution. We also explore the importance of innovation, both in terms of products and processes to mitigate against the impact of these forces.

A. Introduction

From the time, our ancestors first discovered the use of fire, to the advent of steam engines in the late 1600 that revolutionised industry and transport, right up to the information communication technology (ICT) revolution, the advancement in technology has had a profound impact on the nature of human existence. According to Franssen, et. al (2018: 1):

“It is largely by technology that contemporary society hangs together. It is hugely important not only as an **economic force** but also as a **cultural force**.” [emphasis added].

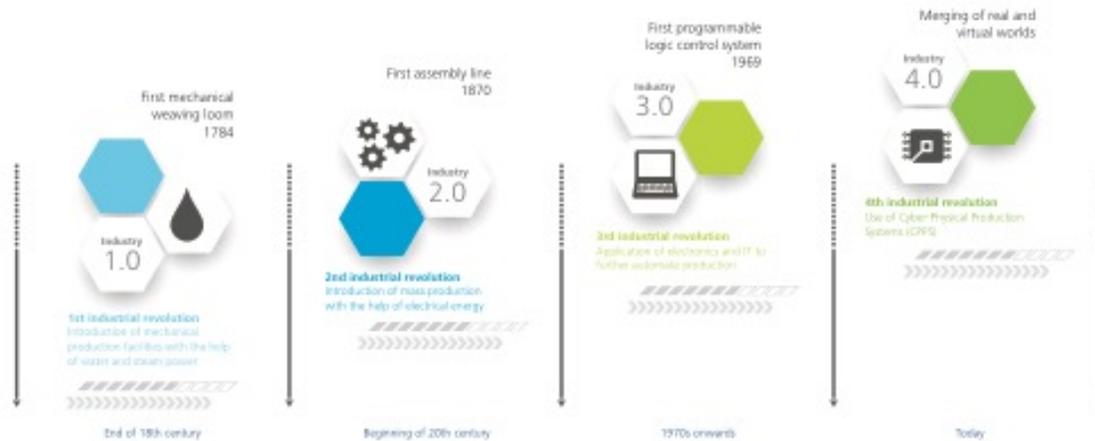
This debate on the primacy of technology in shaping modern society resulted in the emergence of a distinct branch of philosophy, “The philosophy of technology” as an intellectual pursuit to understand the societal and ethical aspects of technology. In a historical sense the quest to explain the relationship between humans and technology were first critiqued by ancient Greek philosophers such as Plato and Aristotle. Emerging from this initial exploration were two prominent themes, viz.: (1) technology as a means used by which humans to imitate nature to ensure its own survival (e.g.: house-building) and (2) the ontological distinction between natural things and artefacts (i.e.: unlike natural things that grow, change and reproduce itself, artefacts are inert, and produced to serve a human purpose) (Franssen, et. al 2018: 3-4) The latter is a theme we will return to later in this article.

According to Marr (2018: 1) unlike the preceding three industrial revolutions, catalysed by the impact of steam power, electricity and assembly lines, and computerisation, we are now on the cusp of a revolution that may challenge our ideas of what it means to be human (See figure 1 below). This epoch spearheaded by advancement in Artificial Intelligence (AI) and robotics has been the central point in global discussions on the dawn of the Fourth Industrial revolution (or Industry 4.0 or 4IR). In this paper, we explore the potential impact of the 4IR on African entrepreneurs, their business models, as well as, what steps could be taken benefit from this trend and be prepared for this new epoch.

B. What is the Fourth Industrial Revolution?

Although Klaus Schwab, the founder and executive chairman of the World Economic Forum (WEF), is widely credited with coining the concept fourth industrial revolution, Garbee (2016: 2) points out that the phrase first came into popular use as far back as the 1940’s. According to Schwab, the 4IR is different from previous industrial revolutions in terms of scale, complexity and scope. It is characterised by a range of new technologies that are fusing the physical, digital and biological worlds. The disruptive influence of such technologies is said to be felt across disciplines, economies, industries and governments.

Figure 1: The evolution of industrial revolutions



Source: Deloitte (2017)

But if the notion of a 4IR merely conjures up the images robots replacing humans in production lines or 3D printers and nano technology being used to produce complex machinery, think again. Humanoid robotics have evolved way beyond the point of its so called "DDD application", thus its use for those human endeavours that might be deemed Dull, Dangerous or Dirty (Mitchell, 2016).¹ Even once revered professions such as that of being a surgeon, a chartered accountant, or a pilot is not spared from the technological onslaught.

Johnson and Johnson's Ethicon and Alphabet's Verily Life Sciences (a subsidiary of Google) has announced that great strides are being made in developing a digitally-enabled robotic surgery platform – Verb Surgical (Enriquez, 2017). Some estimations suggest that within the next decade much of the complex surgery (especially keyhole surgery) currently performed by human surgeons will be left to robots (Devlin, 2018: 2-3).

In the field of accounting, much of the technological advances, especially the use of cloud technology has been seen as enhancing the role accountants (Skoulding, 2018). However there has also been the realization that, as Slyozko and Zahorodnyea (2016: 5) point out "the complete computerization of accounting will lead to the abandonment of the use of modern accounting staff, which will be replaced by various algorithms."

As far as aviation, especially military aviation, is concerned we have witnessed an intense debate on the future role of unmanned aerial vehicles (UAVs) or drones. This debate has become convoluted with topics ranging from issues such as privacy, safety, legality and more recently ethics (Hopkins, 2017:4-6). Despite promises from former American President, Barack Obama that the use of drones will be kept on a "tight lease", evidence suggests that thousands of civilians have died in US drone attacks, much of which have been branded "extrajudicial killings" (Matthews, 2013).

¹ The use of technology to compensate for a lack of emotional engagement – here we just have to think of the "Tamagotchi" craze in the late nineties where a technological artefact was created to substitute human emotions and characteristics such as care, loyalty and some may even say love (HBR, 2003:3). Psychological dynamics might redefine what it means to be human and influence how we interact not only with machines but one another.

Whilst the common refrain has been that “behind every drone is a human controller”, the increased use of Artificial Intelligence (AI) or smart technology to enhance drones is bound to complicate the debate. And although many commercial airline executives have bemoaned the global shortage of commercial pilots, a 2017 study showed that, currently, Airbus and Boeing pilots manually flew their planes for only three to six minutes per flight – thus less than three percent of the time! (Ellis, 2017).

C. The impact of the Fourth Industrial Revolution on...

C.1 The labour market

The renowned economist, John Maynard Keynes (1933: 3) predicted the occurrence of widespread technological unemployment due to humanity’s “discovery of means of economising the use of labour outrunning the pace at which we find new uses for labour.” According to Frey and Osborne (2013: 2) the phenomenon of jobless growth has been spurred on by use of computers as substitute for jobs that have become obsolete. In the United States of America (USA) global consultancy group, McKinsey Global Institute, found that after the 2008 financial crisis 44% of companies reduced their headcount by means of automation (MGI, 2011). In a comprehensive study across 702 occupations in the USA, Frey and Osborne (2013) found approximately 47% of total US jobs may be at risk due to computerisation by 2030. Nordhaus (2007) found that since the 1980s computing costs declined on average by 64%, while computational power increased dramatically. Advances in the fields of Machine Learning (ML) and Artificial Intelligence (AI) has also led to a wide range of non-routine cognitive tasks (with the availability of big data) becoming computerisable (Frey and Osborne, 2013, 15:17).

In Developing countries in general, and Africa in particular, the adverse impact automation on employment may be similarly dire. In a study conducted by Karabarbounis and Neiman (2013) they found that the labour share of GDP had declined in 42 out of 59 countries. This they argue are most notably due to the fact that advances in ICT caused the price of machinery and equipment to drop, resulting in companies shifting investment away from labour towards capital. The World Bank (2013: 56) estimates that for global employment rates to merely remain stable as populations grow between now and 2030, the world economy will need to create some 600 million new jobs. In Africa alone 11 million young Africans are expected to join the labour market within the next decade. And as Raja and Amphah (2016: 2) rightly point out, “If they cannot find work, their frustrations could undermine national and regional stability and undo decades of progress.” Naude (2017: 4) points out that in even relatively poor African countries such as Angola and Ethiopia, there is a risk of having around 50 and 44 per cent of current jobs being susceptible to automation respectively.

To complicate matters further, African and other developing countries may be losing their comparative cost advantage as robots allow developed countries to “re-shore” manufacturing (Naude, 2017:5). The UNCTAD (2016: 2) sounded the warning that this phenomenon “could turn global value chains on their head, and lead to their decline as a potential industrialization strategy for developing countries.”

C.2 Businesses

Over the past decade we have witnessed a slew of disruptive business models that evolved out of advances that can be associated with the 4IR. Advance in computing power and greater interconnectivity has led to what is today commonly referred to as the “Internet of Things” (IOT) – see figure 2 below. Such interconnectivity holds major advances for businesses, especially Small Medium and Micro Enterprises (SMMEs) to integrate their products and services into the much larger global value chains. The use of new production technology such as 3D printing (additive manufacturing) has revolutionised the manufacturing sector. According to Naude (2017: 6) this gave rise to ‘new forms of manufacturing’ referring to small scale manufacturing that is now made more competitive and efficient through tools that enables additive manufacturing, mass customisation, cheaper automation and reduced input costs. Brynjolfsson and McAfee (2012) refers to affordable “robots-in-a-box” which allows small businesses to set up their own automated factory, dramatically reducing the costs and increasing the flexibility of manufacturing’.

Figure 2: Interconnectivity of the 4IR



Source: Deloitte (2017)

In addition to the impact on manufacturing and the potential for greater connectivity, the 4IR allows for new business models that directly challenges the way business is conducted. In this regard, we turn to three examples, namely the rise of transport network companies (TNCs), online retailing and mobile money.

C.2.1 Transport network companies (TNCs)

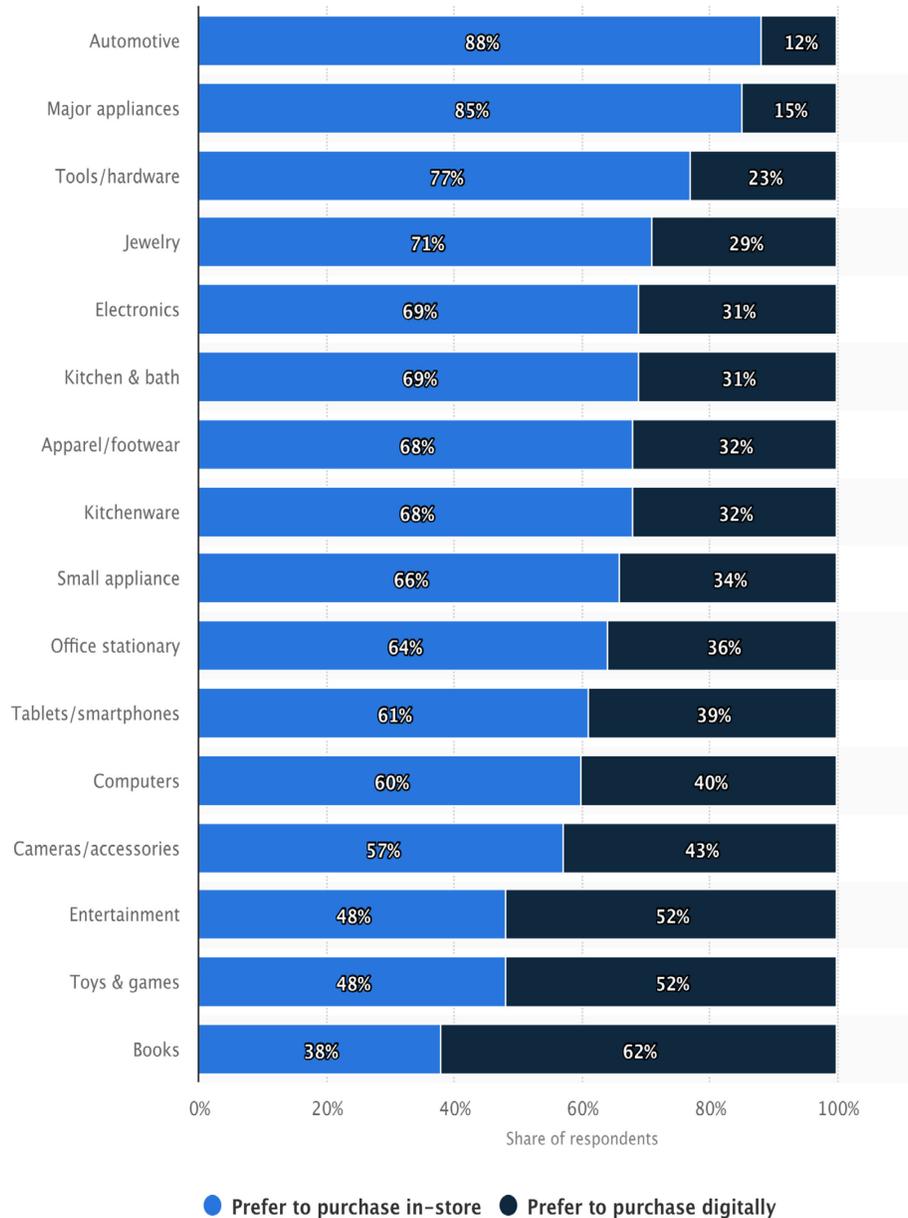
The introduction of TNCs such as Uber and Taxifi, has heralded the end of the traditional meter taxi sector. In San Francisco, the birthplace of Uber, the number of traditional taxi rides declined by an average of 65% between 2012 and 2014 (SFMTA, 2016). A study conducted by Berger (et. al 2017) found that although the earnings of traditional meter taxi drivers has fallen by 10% in the US market since the introduction of Uber, hourly rates of self-employed Uber drivers grew by the same margin. The introduction of these services has however in many cases been met with sharp resistance ranging from legal court battles (e.g.: Canada and Australia) and violent (even deadly) clashes between TNC drivers and traditional meter cab drivers in country's such as South Africa, Greece. In countries such as Bulgaria, Denmark and Hungary TNCs are banned, with limited bans of certain services in Italy, France, the Netherlands and Finland.

The introduction of TNCs caught many regulators off guard. Legal action against these companies were brought against these companies from both those in existing taxi industry and also TNC drivers themselves. Given the fact that TNCs view their drivers as "independent contractors" rather than employees, they have managed to skirt around issues such as taxation and working hours, which the traditional taxi companies are bound to. On the other hand, drivers found that many of the legal protections and benefits (such as overtime) have been denied them through this business model. The irony of TNC as examples of business models of the 4IR, is that it too may become as another advance in technology, that of autonomous vehicles, come online.

C 2.2 Online retailing

In the retail sector, much strain has been experienced by "brick and mortar" shops and malls due to the impact of e-commerce, specifically online shopping. For those in the retail sector it is of critical importance to take note of the trends discernible regarding consumer preferences regarding online versus in-store purchases (see figure 3). As distribution services becomes more reliable and global competition, especially from Chinese companies such as Alibaba Group Holdings and JD.com, drive prices down a spurt in online-shopping can be expected.

Figure 3: Online versus in-store purchase in the USA



Worstell (2015) points out that by 2015 12% of retail spending in the US was online. He further mentions that although only 2% of malls have closed down, with 4% in grave danger of following suite and 3,4% of malls are more than 40% vacant (representing 30 million square feet). Fantoni (et.al. 2014) states that the e-commerce revolution and the rise of digital technologies are fundamentally reshaping consumer expectations and shifting the function of stores towards useful and entertaining customer experiences.

The mall as the ultimate symbol of consumerism is steadily losing its shine and websites such as **deadmall.com** has sprung up to record failing malls across the US and other countries – a sort of online obituary for failed malls. The website even featured a section on the continued failing of South China Mall in China, which at 5 million square feet shopping space made it the biggest mall in the world – twice the size of Mall of America (Bloomington, Minnesota); the biggest mall in the USA. In an interesting phenomenon witnessed recently has been that many e-commerce companies are also venturing into investing traditional “brick-and-mortar” stores to consolidate their market positions. In the USA, it started with Amazon acquiring Whole Foods, but the trend has even been more pronounced in China with Alibaba and JD.com spending billions of dollars in acquiring retail space (Feng, 2018).

C 2.3 Mobile money

The networked society has created tremendous opportunities for new models of banking. In Africa, a remarkable success story in this regard, is that of global leader in mobile money, M-Pesa. “Pesa” which translate to “money” in Swahili was launched by Vodafone’s Kenyan subsidiary Safaricom in 2007. From its humble beginnings as a means for mobile phone users to transfer small amounts of money between them, it today has 30 million users spread over 10 countries. Its service offering ranges from international cash transfers to small loans and even health provisions. In 2017 an estimated share of Kenya’s GDP processed over M-PESA. (McGath, 2018).

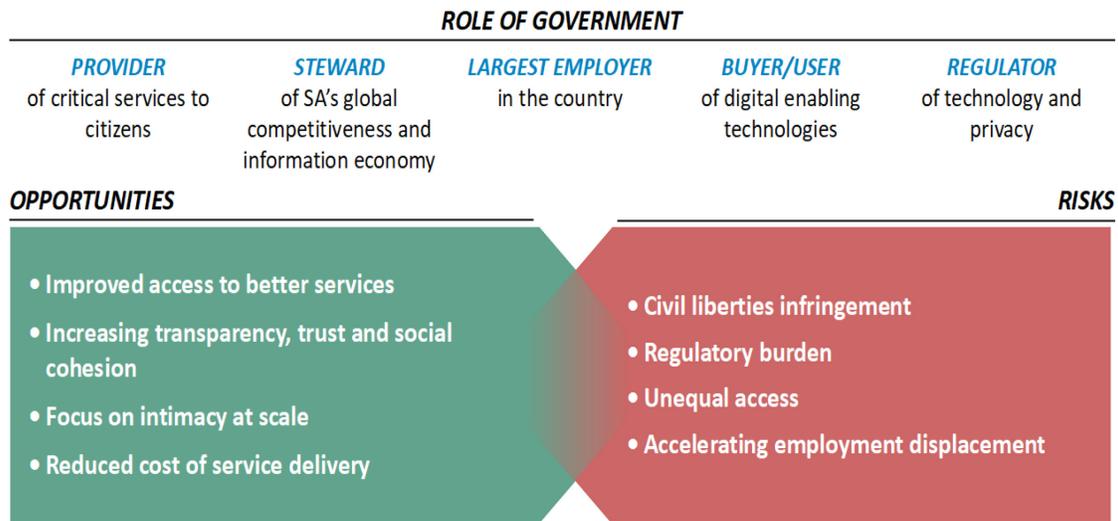
D. Lessons to be learned and action to be taken

D.1 Prepare for the storm

The anticipated impact of the 4IR on the labour market, as discussed in this paper, may have a dire impact on African economies, increasing unemployment and deepening inequality. With this in mind collaborative action is required from governments, the business community and educational institutions. A recent study by Deloitte (2018) found that Africa has an advantage over developed markets because it is not weighed down by infrastructure legacy issues and may have little difficulty in embracing change. They further suggest that great leapfrog potential to directly adopt or develop specific industry 4.0 or IOT applications exists. The chaos associated with the introduction of TNCs in South Africa and elsewhere on the continent however draws one’s attention to the importance for governments to put in place the appropriate regulatory environment for such ventures.

In a recent assessment by telecommunication giant, Telkom the role of government in preparing for the 4IR was summaries as follows:

Figure 4



Source: Rabana (2017)

Smart technologies will create new opportunities for prosperity. Rather than being wary of automation or robot or being complacent the strategic choices need to be made today. If policy does not prepare now, the risks to sustained and shared prosperity will only increase. As Raja and Ampah (2016: 2) state:

“Sustainable development will require investments in technology, in line with the UN Sustainable Development Goals, especially 8 and 9c. Not doing so would perpetuate existing digital divides and be a miss opportunity to address inequality.”

Naude (2017: 15) however rightly points out that no government are in the position to fully protect its citizens against job losses due to 4IR, but care should be taken to prepare current and future workers for its impact. Governments need to act now, in partnership with the private sector, to invest more in skills, in improving business environments, and in strengthening the social safety net to protect the vulnerable.

D.2 Ride the wave

African entrepreneur should place themselves in a position to exploit the global dynamics of declining cost in computing and robotics, and the availability of new manufacturing technology, such as additive manufacturing. In this regard, it is heartening to notice that across the African continent a number of projects have been launched to do just that. In robotics, the Ugandan Fundi Bots initiative is teaching Ugandan schoolchildren about robotics, and in Egypt EG Robotics was launched in 2015 as an entrepreneurial initiative to promote robotic development in Egypt. Liberia also piloted the first Ebola-fighting robot. This robot disinfects rooms and kills the Ebola virus, thus protecting health workers against exposure to the virus (Naude, 2017: 18).

The use of additive manufacturing is also on the rise across the continent – mostly in collaboration with European partners. In Togo, a local entrepreneur (Afate Gnikou) won an international prize for manufacturing a prototype 3D-printer from recycled electronic for less than US\$ 100. The Vanderbilt-Zambia Network for Innovation in Global Health Technologies 3D-prints fully functioning molecular biology and chemistry labs in rural Zambia for use in malaria testing. And in Uganda 3D-printers have been introduced to print prosthetic limbs for amputees (Scot, 2015).

As far as indigenous TNCs are concerned, network-linked motorcycle taxis, called Boda Bodas, are used with great success in Kampala, Uganda and has spread to other parts of Eastern Africa (Siegel, 2017).

FarmDrive in Kenya has created financial solutions that links often unbanked and underserved smallholder farmers to credit, while also helping financial institutions to increase their agricultural loan portfolio (Ekekwe, 2018).

D.3 Build it and they will come

To prepare for the exponential speed and change of the 4IR manufacturers need to adjust their infrastructures and develop new ones, upskill their workforce and reorganise their businesses. Having an integrated IT system in place that can handle the increased speed of change, higher flow of data and new networking and communication needs, while leveraging new applications such as cloud computing for example, will become indispensable in the 4IR (Deloitte, 2017). Overall, this redesign should facilitate continuous experimentation and innovation of new, scalable business models, not just the traditional area of product innovation. (Deloitte, 2017:21-22)

Innovation has traditionally focused predominantly on product offerings, but its major potential lies in the areas of company structures, processes, networks and profit models, together with customer-facing functions, such as new services and distribution channels. Rather than thus only focussing on product innovation, the need exists to ensure process innovation.

Collaboration between business and the higher education sector will also become ever more critical to ensure greater fit between the offering of tertiary institutions and skills required by companies. Universities can also play a meaningful role in setting up incubators to assist SMMEs in preparing for the 4IR. An interesting example in this regard is Stanford University's Design School's "Real-World projects". Through this programme firms are invited to partner with the design school to develop projects for students that address real-world challenges (Stanford.com).

Recently South African telecommunications company, Telkom, in partnership with the Universities of Witswatersrand, Johannesburg and Fort Hare launched SA4IR (Arnoldi, 2018). The stated objective of this partnership is to build an "inclusive developmental future for South Africans by stimulating a national dialogue and developing a national agenda in response to the impact of the Fourth Industrial Revolution". SA4IR is said to strive for "tangible solutions" to the challenges of the 4IR and set its aim to bring together various stakeholders to develop comprehensive strategies for mining, healthcare, manufacturing and the services sector.

E. Conclusion

The market and policy conditions created by the 4IR requires vigilance and not complacency. A “business as usual” attitude is not an option. Investing now in the necessary infrastructure and skills development can put African countries (and its businesses) in a position to optimally take advantage from the opportunities it presents. Collaboration between business, government and educational institutions reaching beyond borders is of paramount importance. For the entrepreneur an awareness of trends and technology requires a forward-looking attitude that does not wait till their sector or business becomes obsolete but fixing the adapting their businesses continuously. Thus, than following the dictum that says “If ain’t broke, don’t fix it!”, perhaps fixing it before it breaks might be the more appropriate action required.

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The challenge of late payment of SMMEs

with a focus on South Africa

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Abstract

Small, Medium and Micro Enterprises (SMMEs) are widely recognised as playing a pivotal role in economic development and job creation. This is particularly so in Africa, where SMMEs are responsible for 80% of all formal jobs. While this is recognised by various African continental and national developments plans, the nefarious practice of late payment, by especially governments, not only stunt the growth of SMMEs, but often-time leads to business failure. This article investigates the impact of late payment, with a specific focus on South Africa and touches on international good practice that may be employed to address this phenomenon.

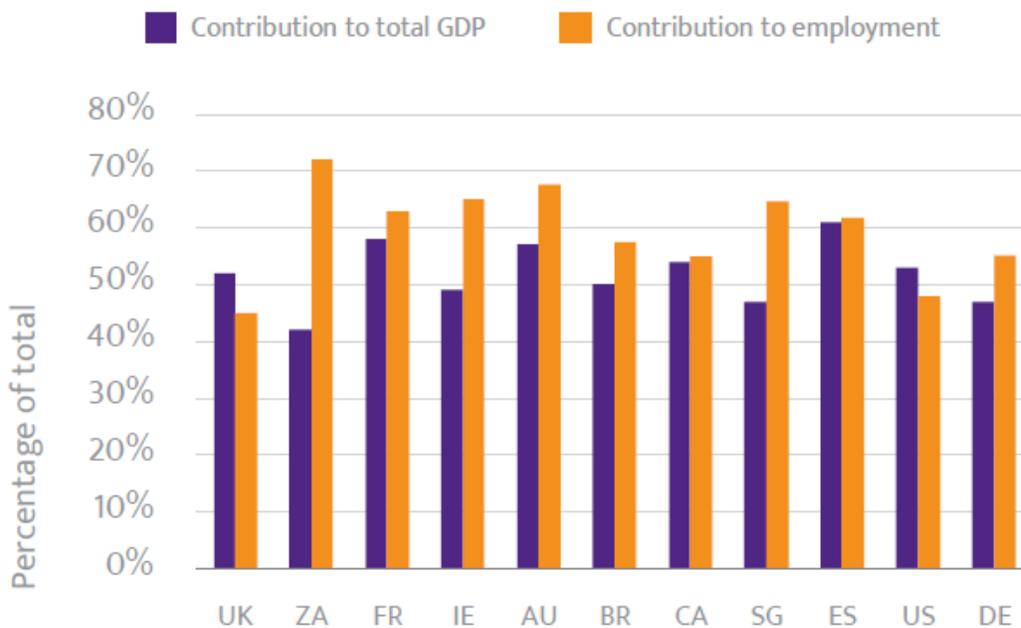
A. Introduction

According to the World Bank (2018) 11 million young Africans are expected to join the labour market within the next decade, IMF (2018) figures projecting that the number of Africans joining the working age by 2030 is more than that of the rest of the world combined. To this end Raja and Amphah (2016: 2) rightly point out that:

“If they (young Africans) cannot find work, their frustrations could undermine national and regional stability and undo decades of progress.”

Confronted with this reality, the onus is on African governments and the private sector to create an enabling environment for Small, Medium and Micro Enterprises (SMMEs), who currently are currently responsible for the creation of 80% of employment in Africa, to thrive. The contribution of SMMEs to GDP and employment (as illustrated in Figure 1) has been recognised globally and in Africa, the African Union, through its agenda 2063 has set itself the strategic objective to promote policies that will increase working capital, trade fiancé and insurance access to SMMEs.

Figure 1: SMME Contribution to GDP and Employment



Source: Plum consulting (2017): *The Domino effect*.

In the Developing World context governments are mostly the largest buyer of services and products, which places them in a unique position to leverage public procurement to stimulate growth of SMMEs. Governments can also incentivise large private businesses that conduct business with it, to include SMMEs in their value and supply chains.

However, in this article, it will be pointed out that rather than facilitating the growth and development of SMMEs, governments are often-time the reason for business failure of SMMEs, through the nefarious practice of “late payment”. Specific focus is placed on South Africa, Africa’s second largest and arguably most sophisticated economy. The article concludes with a reflection on internationally good practices to address the problem of late payments and argues for the need to put in place prompt payment legislation to protect SMMEs from the abuse of larger companies and the incompetence and tardiness of government procurement practices.

B. What is prompt payment and why does it matter?

Late payments are a by-product of one of the most important financial instruments in the world - trade credit. As this is not an odd or rare occurrence, the conditions surrounding the need, use, exploitation and legal protections to curb rampant trade credit vary across nations and business cultures. Although cultural practices have different ways of impacting commerce, there are some universal factors that are common.

The Association of Chartered Certified Accountants (ACCA) (2015) estimates that almost half of all business-to-business transactions in the world is supported on the back of trade credit, with at least 30% of all trade credit-based sales reportedly paid outside the agreed terms. The survey further suggests that the appeal for debtors to participate in late payment practices is related to the fact that it is cheaper and more easily availed than a loan for working capital. Holding onto interest generating capital in addition to income generated by clients was another reason listed for late payment behaviour.

The UK Department of Business and Innovation (2013) defines “late payment” as that which “...occurs when a business has been supplied with goods or services on credit, but fails to pay within the agreed term”..., while the Australian Small Business and Family Enterprise Ombudsman briefly defines this practice as getting paid beyond the agreed time stipulated in a contract.

In a similar vein, Walker (2017) defines “late payment” as “an umbrella term which is used to encompass several different types of buyer-seller behaviour, but in general it is used to refer to a situation where a buyer with a healthy cash flow fails to pay an invoice for goods or services rendered on the agreed upon date as per their set terms with the seller” (Walker, 2017:1).

As often the case with umbrella terms, late payment is not one-size fits - all situations that arise as a result of flawed business partnerships or business culture. As a multi-faceted and complex phenomenon, the occurrence of late payment can, more often than not be attributed to a range of additional factors such as standard business cycles, an imbalance of power in the market, the efficacy of judicial structures and legislation and end product of industry structures and norms amongst many others. Forces affecting late payments are therefore not random in their occurrence but consist of the interaction of many facets of a working business environment.

In contrast to large companies, SMMEs are not in the position to easily absorb the impact of late payments. This means that upon failure of payment by clients, SMMEs have little choice but to resort to measures such as decreasing future investment in their businesses due to dipping into cash reserves, finding (expensive) external financing to stay afloat, reducing annual bonuses and cutting staff pay, retrenching staff or ultimately going bankrupt. Late payments have a knock-on effect on the entire value chain, with 34% of SMMEs admitting to paying their suppliers late due to liquidation problems caused by late payments further up the value chain (Plum Consulting, 2017). Given that most economies are primarily comprised of SMMEs in addition to their large share in employment, it is a national priority to ensure the health of the sector through not only prompt payment, but focused investment. Walker (2017) summarises the basic impacts of late payment on SMMEs as follows:

- It raises costs associated with the financing of working capital;
- It depletes cash reserves in businesses, while often losing the interest which could have been accrued in the meantime;
- It escalates administrative costs associated with collections and recoveries;
- It drains labour productivity, and causes businesses to require passing up further profitable work;
- It creates distractions from everyday work for both owner-managers as well as the business staff;
- It creates losses for businesses which would otherwise seem profitable on paper;
- It often places the burden of financing the entire supply chain on the smallest sellers and suppliers which are usually placed quite low in the chain;
- It creates unemployment and bankruptcy;
- By killing otherwise profitable business ideas, late payment stifles competition and hampers business progress in markets with unsustainable late payment problems;
- Since companies seem to increasingly accept the presence of late payment as a given, the fall backs required for small businesses to survive late paying clients increases the barriers to entry for businesses in industries (creating insulated markets) with the worst payment practices (Walker, 2017:4).

According to the Small Business Survey (2016) conducted by the South Africa Institute of Chartered Accountants (SAICA), approximately 76% of small businesses operating for less than five years identified the lack of funding and poor cash flow as major impediments to growth. Another study conducted by software company Xero (2017) recorded that SMMEs identify cash flow as the second biggest challenge faced by their business, with 35% of respondents indicating that cash flow issues “keep them awake at night”. Similarly, a recent study by Sage, called “Domino effect” (2017) found that 8% of payments to small businesses are either never made, or paid so late that SMMEs forced to write these payments off as bad debt. The study further records that 52% of respondents reported to having experienced negative impacts due to late payments.

SMMEs are particularly vulnerable to disruptions to operations due to their size and are much less able to absorb operational shocks in the short run due to limited capital. SMMEs often have limited cash reserves, with delays in payment having significant impacts on their ability to operate. When experiencing cash flow problems, SMMEs are

more likely to cut down on future investment in order to stay afloat, impacting growth opportunity. Companies are not able to invest, expand into new areas and take advantage of new business opportunities. Additionally, firms that find it difficult to pay their suppliers are unlikely to be able to increase their order of inputs necessary for a larger-scale production.

Late payments therefore have debilitating consequences on the sector's growth and the broader economy as a whole, due to the sheer size of the SMME sector.

C. The South African case

The South African Cabinet has, since 2009 endeavoured to address the problem of late payment of service providers through various initiatives and policies. The National Development Plan (2011) estimates that 90% of all new jobs will be created by Small, Medium and Micro Enterprises (SMMEs) by 2030 - and with approximately 9.3 million unemployed South Africans, supporting the health of the SMME sector as a vehicle for economic growth, sustainable employment and the alleviation of poverty is a matter of national importance.

To demonstrate its commitment to bolstering the SMME sector, government pledged to partner with private business in establishing a fund to provide capital assistance to SMMEs in 2016. Big business raised R1.4 billion to establish the SA SME fund which proved to be barely operational and failed to attract equivalent government funding. In 2018, government went on to announce the creation R2.1 billion start up fund during the budget, with very little elaboration regarding the roll out of this initiative.

In his reply to the debate on the 2018 State of the Nation address, President Ramaphosa pointed out that government should endeavour to remove barriers for the optimal functioning of the SME sector, stating that:

"It is clear that the failure of some government departments to pay suppliers within 30 days has a devastating impact on small and medium-sized businesses. This is something that I want to see addressed as I visit government departments, because the culture of late payment has gone on for far too long and has caused far too much damage, particularly to emerging black businesses".

Though investment capital forms an important component of assisting SMME sector growth, cash flow is just as crucial for the survival of SMMEs.

Though many initiatives addressing the late payment of service providers have been spearheaded by National Treasury and the Department of Planning, Monitoring and Evaluation (DPME), compliance of departments has moved at snail's pace. The SME insights report published by the South African Institute of Chartered Accountants (SAICA, 2015) reported on the number of days various sectors took to settle payment owed to service providers. Results revealed

that government remained the **main transgressor** when it comes to late payment of service providers, while other SMMEs were found to be the best performers in terms of making timely payments. The exact results were as follows:

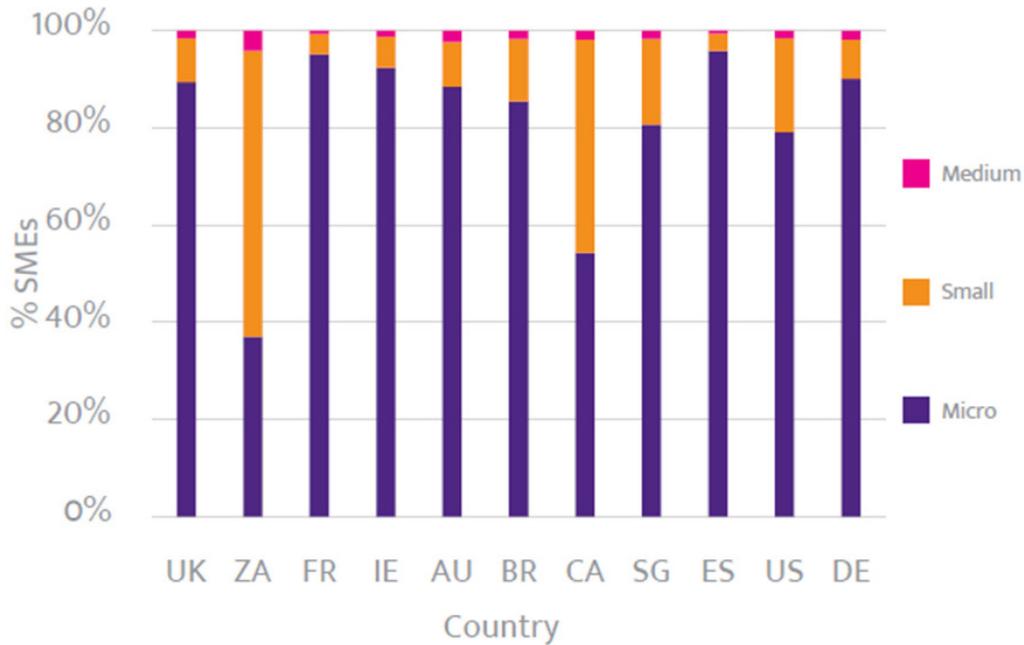
- 86 days for provincial government
- 82 days for national government
- 81 days for municipal government
- 70 days for parastatals
- 42 days for large private sector
- 35 days for small and medium private sector

Apart from the most commonly cited factors determining late payment, such as national business culture, economic conditions and power imbalances in the market, the inconsistency of initiatives, poor planning, lack of efficient monitoring and buy in from all sectors has placed a strangle hold on the South African SMME sector. Initiatives, albeit poorly planned and monitored, have been championed by government, while commitment from the private sector is yet to be seen.

The approach of government with regard to this issue has been self-sabotaging at best and schizophrenic at worst. Not only has government committed to various SME capital funds, but it has championed initiatives to address late payment, while continuing to be the main transgressor in failing to pay SMMEs on time. In the midst of everything, the SMME sector is expected to act as a vehicle for economic growth. Effective intervention requires the buy in of all sectors, alignment of initiatives, proper planning, effective monitoring and the establishment of punitive measures to punish offenders.

In many countries, including South Africa, SMMEs largely outweigh the number of large firms. In a Plum Study (2017) undertaken by Sage, it was found that in South Africa, 97% of registered enterprises were recognised as SMMEs, accounting for a greater share of employment (70%) than any other sector. This percentage does not even include the large South African informal sector.

Figure 2: Comparative size of SMMEs by country



Source: Plum consulting (2017): *The Domino effect*

Prompt payments to SMMEs by government departments and big businesses have the potential to alleviate strain and reduce the rate of SMME closures in South Africa. STATSSA (2016) found that the total number of SMME liquidations increased by 15.4% in September 2016, compared to the year prior. Additionally, the number of liquidations increased by 4.3% in the third quarter of 2016 compared to the third quarter of 2015 alone, while the number of registered businesses stood at 707 000 in 2008, dropping to 670 000 in 2015. This worrying trend of SMME closures suggests that instead of being the source of employment as expected by the NDP, SMMEs have been bleeding jobs, crippled by cash flow and funding issues.

Late payments need to be followed up on, creating a further administrative burden to SMMEs. A survey completed by Plum Consulting (2017) reports that approximately 5-10% of all administrative work of SMMEs is related to chasing late payments. The study further reports that South African SMMEs spend an average of 20 days chasing late payments, incurring approximately R48 000 in costs, ultimately resulting in productivity loss. Seeing that SMEs generally do not have many employees, the allocation of man power to chasing payments has a significant impact on productivity.

Xero (2017) reports that South African small business owners spend on average 1.3 days a month chasing invoices. The study further suggests that chasing payments is experienced differently by various sectors, with the worst-affected sector constituting healthcare, where businesses spend 2.6 days a month chasing invoices, followed by manufacturing and utilities, architecture, engineering and building at 1.5 days each.

D. Public and private sector solutions to the late payment crisis

In terms of Section 38(1)(f) of the South African Public Finance Management Act (PFMA) of 1999 (as amended), Accounting Officers are required to settle all contractual obligations and pay all money owing, including intergovernmental claims, within the prescribed and agreed period. In March 2005, National Treasury published regulations in terms of the PFMA of 1999, requiring Accounting Officers to pay invoices within 30 days of receipt.

Despite Cabinet having issued various directives to government departments to ensure that invoices are settled within 30 days, continued non-compliance on the issue has been experienced. Cabinet has noted the negative impact on suppliers within Small, Medium enterprises and its effect on service delivery, SMME collapse, the broader ripple effect on the rest of the supply chain, employment opportunities and even effects suffered by larger companies. Cabinet therefore took resolutions in 2009 and 2010 instructing departments to implement mechanisms to ensure that payments are processed within 30 days.

Subsequently, National Treasury issued a communique in May 2010 that non-compliance with the PFMA and the Treasury Regulations constitute grounds for financial misconduct. To further ensure compliance, National Treasury issued an instruction note on November 2011 to enforce monitoring of the payment of suppliers. This note required that national departments and provinces submit monthly inception reports for late and/or non-payment of suppliers within 30 days and include the reasons thereof (DPME, 2016:2).

In 2009 and 2010, Cabinet took resolutions to ensure the payment of service providers within 30 days. This commitment to addressing late payment subsequently led to the establishment of an SMME Payment Assistance Hotline, championed by the Department of Trade and Industry and under the stewardship of the Small Enterprise Development Agency (SEDA). It is reported that by 2012, the line had received 7109 queries related to issues of late payment by departments, with 5155 queries to the value of R300million being resolved. Common challenges identified by SMMEs via the hotline included:

- SMMEs were not informed about the correct payment processes requirements such as registering on the central database;
- Having no formal paper trail recording agreement to render services and receive payment;
- Government departments requesting additional deliverables without revising the initial agreement;
- No provision of order numbers to render services in emergency situations; and
- Invoices that were displaced or lost

The hotline was subsequently moved to the Presidency. SMMEs were then able to contact the Presidential Hotline and use a dedicated email address to lodge queries. Performance of the follow up on cases has since not been reported since.

In an attempt to further bolster initiatives to address late payment, a series of provincial hearings were held in 2012 aimed at i.) garnering input from SMMEs with regard to government compliance ii.) gaining an understanding of challenges experienced by service providers, and (iii.) enlisting the help of SMMEs in the provision of suggestions as to how bottle necks could possibly be removed and payment fast tracked (Public Service Commission, 2014:2). The biggest reasons for late payment were communicated by service providers as follows:

- Service providers were not knowledgeable of, and did not adhere to the requirements of proper invoicing;
- Service providers often did not have official purchase orders when they submitted invoices;
- Quality assurance of goods and/or services often took place after capturing invoices delayed payment;
- Accrual of unpaid invoices from one financial year to the next caused cash flow shortfalls;
- Departments did not monitor their payment processes effectively;
- Capacity related constraints hampered departments' ability to pay service providers on time;
- Fraud and corruption resulted in late and/or non-payment to service providers with some service providers receiving preferential treatment.

Since 2011, the current administration has required all Directors to report to the Forum of South African Directors General (FOSAD) on the timeous payment of service providers. Additionally, Outcome 12 of the 2014-2019 MTSF also tracks the performance of departments in meeting their obligations to pay invoice within 30 days.

As of 2015, a special unit was established within DPME in a collaborative effort with the National Treasury and DPSA. This unit was mandated to investigate cases where there is late or non-payment of legitimate invoices within 30 days, identify the causes for delays and non-payment in aforementioned cases, facilitate the process for instituting misconduct proceedings to ensure that there are consequences for late and non-payment of legitimate invoices and support /intervene in cases of continuous non-compliance. Since the inception of the unit, it is reported that a total of 102 cases have been lodged and 47 of those have been closed while 55 cases are in progress. To date, a total amount of R177 million has been paid to various service providers as facilitated by the Unit (DPME, 2016:9).

Additionally, oversight visits were conducted to various national and provincial departments whose performance was deemed unsatisfactory, in an attempt to identify the main causes of non-payment, the bottlenecks and to assist putting in place measures for improvement. The national departments that were visited include the Department of Defence, Home Affairs and Water and Sanitation, Public Works/PMTE as well as those on provincial level in Gauteng, Northern Cape, Kwazulu-Natal and North-West Provinces.

Despite steps taken to address the problem of non/late-payment, the unit has experienced a number of constraints, above all being the issue of capacity. Three officials have been allocated to the unit, who are assigned to other tasks within the department as well. Due to the lack of capacity, the unit is experiencing severe backlog, which can be seen through the facilitation of payment to the value of R177 million over 16 months. This demonstrates that with sufficient capacity, the DPME can achieve more in assisting SMMEs on payment of their invoices.

The Office of the Chief Procurement Officer (CPO) was established on the 1 September 2015 by National Treasury. In order to simplify the process of doing business with government, an electronic registration and verification process of businesses supplying services to government was set up. By July 2016, over 150 000 registrations had been submitted.

In another collaborative effort between the DPME and National Treasury, a walk in centre was established at the National Treasury offices in Tshwane, which was created to address service providers' queries and act as a conduit of information between suppliers, the DPME and NT.

Following a study on late payment completed by the Construction Development Board (CIBD), the Department of Public Works published a set of Prompt Payment regulations in 2015 to ensure prompt payment of both private and public contractual agreements in the construction industry. It has been recorded that the regulations are to be revised for Constitutional compliance and will subsequently be republished. Not only does section 26D (2) of the regulations outline the 30-day time frame within which payment is expected, but provides a clause instructing the payment of interest to the supplier should the client fail to pay within the agreed upon time frame. Additionally, section 26D (3) stipulates that all interest paid in terms of the previous section should be disclosed in the financial statements by the client or employer. This can be seen as ensuring compliance as these payments qualify as fruitless and wasteful expenditure and can name and shame transgressors in financial reporting. These contractual regulations should be expanded beyond the construction industry to include all private and public contractual obligations (Construction Industry Development Board Act, 2000:61).

Notwithstanding these initiatives (and the challenges that accompany them), addressing the issue of late payment remains limited in scope, as platforms only target the relationship between government and SMMEs and not necessarily the payment behavior in dealings between big business and SMMEs. Other than voluntary commitments such as the Prompt Payment Code championed by the National Small Business Chamber (NSBC), credible effort from the private sphere is yet to be seen. Although the code strives to improve payments to suppliers within 30 days, this code does not constitute an enforceable obligation. The focus is primarily on reputational gains and the adherence to ethics and good business practices.

E. Current state of affairs in terms of late payment in South Africa

In a 2016, the DPME released a progress report in the status of payment of invoices by national and provincial departments. At the time of writing, no updated progress report has been published by the department.

As of June 2016, the number of invoices paid after 30 days stood at 17 668 to the value of R340 million. The Department notes that in June 2015, invoices payed after 30 days amounted to 13 803 to the value of R224 million, demonstrating a downward trend. An analysis of national departments' performance for the first quarter of 2016/17 is as follows:

Figure 3: Invoices paid after 30 days

INVOICES PAID AFTER 30 DAYS		
Month	Number of Invoices	Rand Value
April 2016	11 375	R327 559 415
May 2016	20 948	R305 158 185
June 2016	17 668	R340 011 659

When looking at the first quarter of 2016/2017, out of the 40 departments investigated (23 departments showed signs of improvement), the main contributors to the 17 668 outstanding invoices included: The Department of Defense is a main transgressor with 10 719 invoices paid after 30 days, followed by Public Works/PMTE (1 601), Home Affairs (963), Water & Sanitation (784), Rural Development (667), IPID (606) and the Office of the Chief Justice and Judicial Administration (517). Additionally, the rand value of the invoices increased from R327 million to R340 million during the first quarter, displaying evident regression in adhering to the stipulations of prompt payment.

The number of invoices older than 30 days that continue to go unpaid demonstrates a worrying trend. As of June 2016, national departments failed to pay a total of 12 870 invoices to the value of R62 million, compared to 4 543 unpaid invoices to the value of R410 million recorded in June 2015. The table below shows a gradual increase in the number of invoices over the quarter.

Figure 4: South African National Departments: Invoices older than 30 days

INVOICES OLDER THAN 30 DAYS AND NOT PAID		
Month	Number of Invoices	Rand Value
April 2016	9981	R499 376 365
May 2016	12780	R55 172 334
June 2016	12870	R62 027 458

The departments that most contributed to the 12 870 unpaid invoices older than 30 days and displayed a downward trend in performance from the year prior as it relates to payment include the Department of Public Works (10 757), followed by the Department of Justice and Constitutional Development (1088), Home Affairs (375), The Presidency (331) and the Department of Water and Sanitation (151).

The DPME reports that, in terms of the number of unpaid invoices and the rand value thereof, Provincial government performance remains worse than that of National government.

As of June 2016, the total number of invoices paid after 30 days amounted to 29 306 to the value of R1.8 billion, compared to June 2015 where the number of invoices stood at 30 466 to the value of R1.6 billion.

Of serious concern is the number of unpaid invoices older than 30 days, which continue to go unpaid. As of June 2016, provincial departments failed to pay 39 833 invoices to the value of 3.3 billion, compared to June 2015, where the number of unpaid invoices older than 30 days stood at 32 339 to the value of R2.5 billion. The table below demonstrates the number and value of invoices older than 30 days that are unpaid for the first quarter of 2016 (DPME, 2016:9).

Figure 5: South African Provincial Departments: Invoices older than 30 days

INVOICES OLDER THAN 30 DAYS AND NOT PAID		
Month	Number of Invoices	Rand Value
April 2016	50 460	R3,8 billion
May 2016	43 423	R3,5 billion
June 2016	39 833	R3,3 billion

Gauteng province alone accounted for almost 50% of unpaid invoices older than 30 days, with R2.2 billion (out of the total of R3.3 billion) owed to suppliers by the same provincial government.

F. Transnational Solutions and international examples of good practice

The European Union (EU)

While late payment may be a multifaceted phenomenon, there are key drivers that exacerbate the culture of late payments, including economic conditions, national business culture and power imbalances. In 2015, EOS Holdings conducted a survey in which 1 in 4 companies cited the general economic situation/crisis as the biggest factor influencing the payment behaviour of EU companies. It was found that prevailing business culture influenced late payment of service providers, with intentional non-payment being a common practice in some countries and is still exercised by one in four companies. Additionally, power imbalances in the supply chain were also cited as a primary reason for late payment, with more powerful actors imposing long waiting periods on smaller companies and SMMEs not taking any steps for fear of losing future business.

Multiple survey results clearly demonstrate the detrimental effects of late payment on small and medium enterprises. In order to tackle this persisting problem, EU policy on this matter is aimed at prioritising payment delays by public administrations, given the importance and scale of procurement in the EU, representing more than €1,943billion. During the impact assessment for the current Directive (addressing late payment) in place, the European Parliament found that late payments “undermine the creation of stable and economic businesses and policies to drive growth and employment”. Subsequently, an economic paper on late payments was published by the European Parliament, which estimated that implicit costs associated with payment delays by public administrations observed in 2012 ranged

from 0.005% of GDP in Finland to 0.19% in Greece. Echoing sentiments of the prolific impact of late payments, in a working paper completed in 2015, the IMF argued that a standard deviation increase in delayed payment reduces growth by 1.5 to 3.4 percentage points. Similarly, Intrum Justitia published a 2018 report, approximating that 1.69% of annual revenue generated in the EU had to be written off due to non-payment, a decrease compared to 2.8% in 2012 (which was equivalent in value to the total debt of Greece at the time-€340 Bn), 2.44% in 2016 and 2.14% in 2017 (Intrum Justitia, 2018: 4).

In an attempt to discourage late payment and contribute to the development and improvement of the single market and to improve European competitiveness, the EU has introduced contractual terms to discourage late payment periods, late payment in general and enable creditors to exercise their rights when they are paid late (EU, 2016: 26). The latest EU instrument which aims to tackle the issue of late payment in commercial transactions is Directive 2011/7/EU, which replaced the original Directive 2000/35/EC, which featured the same objectives and operating principles (European Parliament, 2015: 1). The current directive was adopted by the commission following an inter-institutional negotiations process. The terms of the revised directive needed to be transposed into national law of all member states by the 16 March 2013. The main provisions of the directive include:

- Harmonisation of period for payment by public authorities to businesses: Public authorities are obligated to pay for procured goods and services within 30 days or, in exceptional circumstances, within 60 days.
- Contractual freedom in business commercial transactions: Enterprises are obligated to pay their invoices within 60 days, unless expressly agreed otherwise and provided it is not “grossly unfair”.
- Businesses are entitled to claim interest for late payment: In addition to interest, businesses are also able to obtain a minimum fixed amount of EUR €40 as a compensation for recovery costs. Compensation can be claimed for all remaining reasonable recovery costs.
- There exists a statutory interest rate for late payment: Interest rates on late payment in Member States should be increased to at least 8 percentage points above the European Central Bank’s reference rate. Public authorities are not allowed to fix an interest rate for late payment below that figure.
- Member States should ensure that recovery procedures for undisputed claims are available: An enforceable title can be obtained within 90 calendar days of the lodging of the creditor’s action or application to a court.

Germany

Of member states party to the European Union, Germany has proved to be one of the best performers in terms of paying invoices on time. The European payment report (2018), conducted across 29 European countries gathered data from 9607 companies in order to gain insight on the payment behaviour and financial health of European firms. The C2FO Working Capital Outlook Survey (2017) records that approximately 29% of invoices issued by German SMEs have been paid late in the last year (C2FO, 2017:24).

EOS European Payment Practices Survey (2017) reports Germany to have the lowest incidence of “wilful non-payment”, while the incidence of late payment was recorded to be more common a practice in Eastern Europe as

opposed to Western Europe. Specifically, approximately 10% of German companies surveyed reported wilful non-payment, while the bottom of Western European rankings included Belgium (43%), Austria (41%) and France (40%) companies and Eastern European companies including are Romania (50%), Greece (45%) and the Czech Republic (42%).

The European payment report (2018) further records that, on average, German SMEs allowed the settling of B2B invoices to be made within a period of 29 days (compared to 21 days in 2017). The average time for (B2B) customers to pay stands at 24 days for 2018 and 19 days for 2017, indicating somewhat of an extended waiting period (European payment report, 2018:30).

Germany transposed the EU late payment directive with a slight delay owing to reported difficulty with reconciling the instrument with already existing national law which focuses on addressing late payments from the angle of unfair contract conditions. After infringement proceedings owing to late transposition of the directive by the EU, the Directive has now been transposed by the "*Gesetz zur Bekämpfung von Zahlungsverzug im Geschäftsverkehr und zur Änderung des Erneuerbare-Energien-Gesetzes*". The country has given greater protections to creditors than those outlined by the 2011 EU late payments directive, due to pressure from the crafts industry. In February 2014, the German Minister of Justice circulated a revised draft law on the implementation of EU directive 2011/7/EU. The terms are as follows:

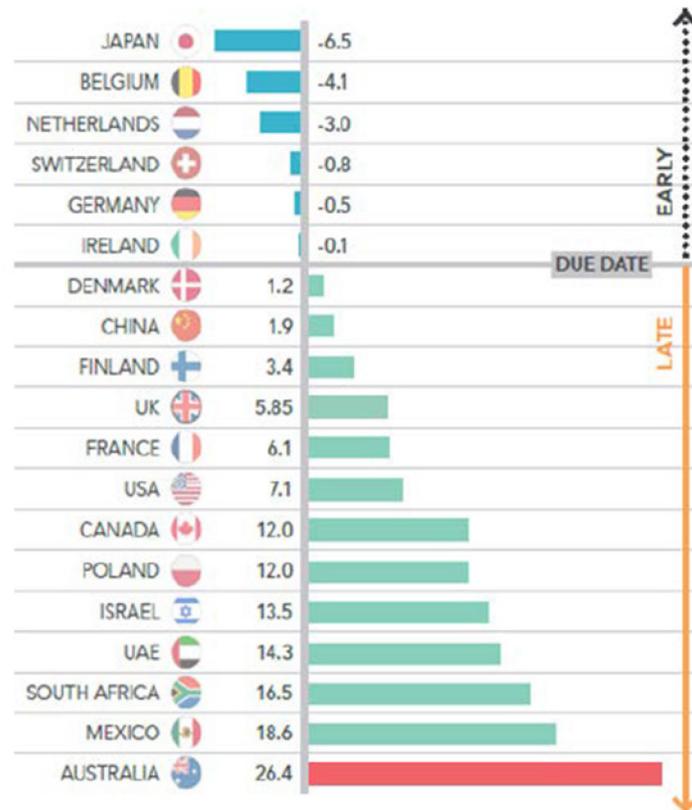
- Contractual terms agreeing to more than 60 days payment time and 30 days for acceptance and verification proceedings are considered as void;
- If in the event the client is a public authority, this time period is limited to 30/15 days respectively;
- The general terms of contract period are limited to 30/15 days, any payment exceeding 60 days will be deemed as grossly unfair;
- No exception will be allowed for late payments in the Public Health Service;
- The interest rate for late payments will increase from 8 to 9% above the European Central Bank (ECB) reference rate for commercial transactions;
- In addition to receiving interest on late payments, creditors are allowed to claim an allowance of €40 (solicitors' fees and costs for engagement of a debt collection agency are recoverable upon the representation of proof);
- In the case of an invoice that is unclear, the set period for payment commences upon receipt of the goods or services; and
- Apart from undue terms and conditions, undue contract terms and practices will be challengeable by third parties.

Japan

Beyond the European Union, Japan ranks highly in facilitating prompt payment to service providers. Representing a five-year international survey on late payment, undertaken by Market Invoice (2015), the figure below suggests that

while Germany falls within the range of early payment (0.5 days early), Japan has outperformed the federation (6.5 days early), while Australia proves to be the weakest performer (26.4 days late).

Figure 6: Average payday 2015. Longitudinal study completed by Market invoice



As noted by Atradius Payment Practices Barometer (2016), Japanese businesses are far more likely to demand upfront payment, request payment in cash on receipt of goods and services, trade in cash equivalents or in terms other than trade credit.

In many countries, delaying payment of suppliers has proved to be an effective source of cash for many corporates. ACCA (2016) argues that Japan's unique record of early payment could be attributed to its zero to negative interest rates. With no reason to save and hold on to capital, capital is better invested by purchasing material stock or physical goods. In this way, Japanese businesses actually have an incentive to pay early, and have less reason to hoard cash. The survey further records that Japanese firms expect the payment of invoices to be cleared within 45 days, a payment term which is significantly higher than the average of 33 days for the Asia Pacific region. Interestingly, while 90.2% of businesses faced late payment on Asia Pacific level, 63.2% of Japanese firms were paid late by clients.

Additionally, 24.8% of the total value of Business to Business (B2B) sales remains unpaid by their due dates, compared to the Asia Pacific region average (44.8%), while 5% of invoices older than 90 days remained unpaid, lower than the Asia Pacific region level (10%) once again. Japanese suppliers have written off approximately 1.2% of the total

value of B2B receivables as uncollectable. This rate has in fact remained stable over recent years, suggesting an unchanged efficiency in collecting overdue receivables.

It should be noted that Japan has one of the longest Days Sales Outstanding (DSO) in the region and in comparison, to most countries. This can be attributed to the longer payment terms offered to clients by Japanese businesses themselves, indicative of a measure of their usual regular contractual terms as opposed to their efficiency in collection process or treatment of late payment culture.

Approximately 45% of Japanese suppliers also indicated that late payment did not have a significant impact on their businesses. This likely reflects a strong focus of Japanese companies on the protection of their businesses from the risk of payment default arising from B2B trade on credit. Compared to businesses in the Asia Pacific that attribute liquidity issues to intentional late payments, the most common instances of late payment in Japan are due to disputes over services and goods and the complexity of payment procedures. Only 20% of Japanese businesses report insolvency or intentional late payments as reasons for overdue accounts receivables.

According to Euler Hermes (2016) collection profile of Japan, the Japanese payment culture is quite stringent. Despite longer DSO's, payments are largely made on time. Financial information of firms is publically available, in a bid for increased transparency. In matters of late payment, businesses are allowed to charge 6% interest on the principal amount if the debtor is deemed responsible for having failed contractual obligations. If in the event the debtor has failed to make the payment within one year, the interest accrued on late payment is included into the principal amount.

The law allows firms to claim compensation for damages as a result of late payment, on condition that the contract includes provisions defining the compensation and the form of payment. With regard to debt collection, Japan has a Civil Law system through which cases regarding breach of contract can be enforced.

The Doing Business Report (2016) investigates the efficacy of the Japanese court system, specifically how long it takes to enforce a contractual payment for goods and services agreed to between two companies. In order to have a contractual payment enforced in Japan, the study records this process to take an average of 360 days and 23.4 % of the total claim value. Due to this time lag, Japan ranks 51st out of 189 countries in enforcing contractual payment through courts.

However, the most significant protections against late payment are those outside of the legal system. These cultural particularities have unique incarnations of late payment protection, one of which is that debtors who have failed to pay on time twice over a six-month period may be banned from the banking system.

Beyond court factors enforcing B2B contracts

One of the largest out of court payment practices that drive timely B2B payments stem from the nature of the Japan's payment practices. In particular, according to a business guide released by Sumitomo Mitsui Banking Corporation (Japan's second biggest banking entity), majority of B2B transactions are carried out through Corporate checks (referred to as "Kigitte") and Promissory notes ("Tegatta") which are similar to promissory notes, so-called IOUs, but are legally defined under Japanese law. Promissory notes represent somewhat of a mid-way between the informal nature of an IOU and the absolute nature of a loan contract in terms of legal enforceability. These notes contain relevant details of the business transaction such a promise by one party to pay another party a definite sum of money wither on demand or at a specified future date, as well as the terms relating to the indebtedness such as the balance due, the place of issuance and the issuers signature.

As the most popular forms of business transactions in Japan, corporate checks and Promissory notes are heavily policed by the Japanese clearing house and are even outlined in the Japanese commercial code. The Japanese clearing system is characterised by a mandatory bank suspension rule, which requires banks to suspend transactions for a certain duration with obligatory payers whose bills or checks are dishonoured, a rule which has been in existence as early as 1887 in an attempt to maintain orderly and fair credit conditions. Currently, all financial institutions participating in a particular clearing house are required to halt their current checking account and lending transactions for two years to a person/business whose checks have been dishonoured twice during a 6-month period (Japanese Bankers Association, 2012:6). Seeing that approximately 74% of these kinds of transactions are carried out by Tokyo clearing house, which functions with the participation of 323 financial institutions, defaulting on payments may as well mean being banned from the Japanese banking system altogether.

While the system employs punitive measures for repeat offenders, service providers are able to reclaim owed compensation for goods and services after 90 to 120 days in the Japanese discount notes market. This system allows service providers to approach banks for discounted rates on promissory notes or private financial institutions for capital. If the bank is made aware of the possible upcoming default, it could possibly halt processing the payment and offer it back to the issuing business for repurchase.

G. Conclusion

The importance of SMMEs, especially in the African context, in terms of contributing to economic growth and employment cannot be overstated. Although a multitude of continental and national development plans acknowledges this, the continued nefarious practice of late payment, mainly perpetrated by governments themselves, undermines the role that SMMEs can play in economic development. International good practices referred to in this article, clearly points out working models for addressing the phenomenon of late payments, but serious political will, coupled with appropriate legislative reform to ensure sanctions against those public officials that are guilty of this malpractice is required.

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Influence of entrepreneurial education and venture intentions on venture creations

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Abstract

This research was conducted to determine the relationship between entrepreneurship educations, venture intention on venture creation among entrepreneurial graduate in Kenya focusing on selected universities in Kenya. The study was grounded on the economic entrepreneurship theory, an attitude-based view on entrepreneurship education and resource-based theory. This research embraced a cross-sectional descriptive survey design. Study population was 2500 student taking entrepreneurship course in various universities of whom a sample of 345 students was chosen using purposive and simple random sampling technique. The study used both primary and secondary data. Statistical Package for Social Sciences (SPSS Version 21) was used to analyse quantitative data. The findings of the study revealed that entrepreneurial education had a noteworthy influence on venture creation ($r= 0.512$, $p = .001 < 0.05$, $t= 10.904$) increase in entrepreneurial education would lead to significant increase in venture creation. The study revealed that entrepreneurial training has significance influence in venture creation among graduate as indicated by $\beta_1 = -0.670$, $p=0.002 < 0.05$, $t= 10.304$. Study established that increase in entrepreneurial orientation would lead to increase in venture creation among graduates by a factor of 0.519 with P value of 0.002 ($r = 0.519$, $P=0.03 < 0.05$). The research conclusion was that entrepreneurial knowledge acquisition, entrepreneurial training and entrepreneurial orientation combined have important and positive relationship with venture creation among the graduates.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Entrepreneurship has long been identified as an essential source of innovation, job advent and financial improvement Stam and Van Stel (2011). This is supported by Latifa, Attieh and Vanessa (2011) as the studying mechanisms should stress on position orientation, contain individual inside the society in problem-fixing and actual life case review, develop rational and critical thinking, foster communiqué and co-operation and stimulate creativity and innovation.

Entrepreneurship education is intended to communicate and instill competencies, talents and values had to recognize enterprise possibility, arrange and begin new commercial enterprise venture Brown (2000). Entrepreneurship education is an academic programme this is targeted on impacting individual person with challenges and emerging issues on entrepreneurship Rehman and Elahi (2012). Timmons and Spinelli (2007) noted that competencies and entrepreneurship skills can be learnt and that a tremendous result of entrepreneurship education programmes on the new ventures in addition to the survival of organizations.

1.1.1 Entrepreneurial Education and Venture Intentions

The External stakeholders have acknowledgement the importance if creation of new businesses and innovations for wealth creation and economic growth which had in turn led to a rising interest in entrepreneurship and in the number of institutions offering entrepreneurship education Minniti, et al. (2005).

The younger generation of the 21st century is becoming the most entrepreneurial generation since the Industrial Revolution (Kuratko, 2005). The objective of Entrepreneurship education is to promote innovation, creativity and self-employment (European Commission, 2009).

1.2 Statement of the Problem

Entrepreneurship education is rated high on policy agendas of several countries Graevenitz et al. (2010), however, little research has been conducted to assess its impact. The government of Kenya embraces entrepreneurial education in the education curricular in an effort to encourage self-employment among the graduates to curd the unemployment level. According to Kilasi (2010) the significant role that institution of higher learning can play to promote entrepreneurship by using some models and suggests the model that best suits the Kenya scenario in promoting entrepreneurial knowledge acquisition, foster opportunity and recognition, foster entrepreneurial orientation and promote students perceived entrepreneurial self-efficacy and skills in an effort to increase graduate starting ventures. However, the empirical studies on impact of entrepreneurial education of venture creation in Kenya are inadequate. Despite introduction and promotion of entrepreneurship education in several developing countries like Kenya and at many institutions of tertiary education, little is known about the effect of this entrepreneurship education on venture creation. This motivated this study to be carried to fill the existing research gap by determining whether entrepreneurial education has a significant influence on venture creation focusing on entrepreneurial education graduates from selected universities in Kenya.

1.3 General Objective

The main objective was to examine the relationship between entrepreneurship educations, venture intention on venture creation among entrepreneurial graduate in Kenya focusing on selected universities in Kenya.

1.3.1 Specific Objectives of the Study

The specific objectives of this study were:

- i. To determine influence of entrepreneurial knowledge acquisition on venture creation among graduate from selected universities in Kenya
- ii. To examine influence of entrepreneurial training on venture creation among graduate from selected universities in Kenya
- iii. To assess influence of entrepreneurial orientation on venture creation among graduate from selected universities in Kenya
- iv. To investigate the influence of entrepreneur intention in the relationship between entrepreneurial education and venture creation among graduate from selected universities in Kenya

1.4 Research questions

- i. How does entrepreneurial knowledge acquisition influence venture creation among graduate from selected universities in Kenya?
- ii. How does entrepreneurial training influence venture creation among graduate from selected universities in Kenya?
- iii. How does entrepreneurial orientation influence venture creation among graduate from selected universities in Kenya?
- iv. There is no significant influence of venture intention in the association between entrepreneurial education and venture creation among graduates from selected universities in Kenya

1.5 Justification of the Study

The finding of the study will be significant to the government. It will provide insight on the function of entrepreneurial education on entrepreneurial development and the development of a vibrant small and medium enterprise sector which in the process will foster youth employment and improve economic development.

The study will be significant to the education policy maker in the Ministry of education as it will provide insight on contribution of entrepreneurial education on economic development, fostering employment among the graduate and improve living standards in the communities.

To scholars and researchers, the study will provide a foundation on which future research can be carried out. It would be worthwhile to examine the relationship entrepreneurship education, venture intention and venture creation and add unto the existing theories.

CHAPTER TWO: LITERATURE REVIEW

2.1 Theoretical Foundation

There are diverse perspectives on business enterprise and what a business person is. Financial experts are of the view that business visionaries consolidate diverse assets in particular mixes to deliver products at financial returns Du Toit et al. (2009a). The concentrate of market analysts is on what business people do and have achieved a conclusion that entrepreneurs are roused basically by the benefit rationale. Behaviorists portray entrepreneurs as indicated by their attributes, for instance their want to accomplish, their slant towards chance taking and also their innovativeness. Marxists view entrepreneurs as exploiters. Du Toit et al. (2009b) specify that corporate directors see business visionaries as little administrators who do not have the possibility to oversee extensive endeavors.

2.1.1 Economic Entrepreneurship Theories

The economic entrepreneurship theory has profound ground on the traditional and neoclassical speculations of financial aspects. The defenders of monetary speculations among others, for example, Schumpeter (2018), in which he accentuated that business enterprise as a total of inventiveness and advancement. The idea turn into the final product of England's business upheaval which happened inside the mid-1700 and endured until the point when the 1830s. Traditional scholars explained three methods of creation: arrive; capital and work. There were protests to the established idea. These scholars did not give a clarification to the dynamic change produced by methods for advertisers of the business age Murphy, Liao and Welsch (2006).

The neo-established technique rose up out of the reactions of the traditional form. A couple of reactions were brought up in resistance to the neo-established guesses. The essential blend request overlooks the singularity of individual-level entrepreneurial movement. In addition, neither utilizes nor substitute cost mirrors the fate charge of development outcomes. Thirdly, normal guide allotment does not grab the multifaceted nature of market-based frameworks. The fourth factor raised turned into that, effectiveness based implementation does not subsume progression and non-uniform yields, recognized way/finishes and best or semi-culminate mastery does not depict vulnerability. Further, idealize rivalry does not allow development and entrepreneurial exercises. The fifth point is that, it's far difficult to imply all data sources and yields in commercial center frameworks.

2.1.2 An attitude-based view on entrepreneurship education

Most entrepreneurship educationists' assessment have surrendered an entirely persona-characteristic based view, which has been dismissed through both hypothetical and empirical confirmation Charney & Libecap (2000). Mwasalwiba (2010) states that there is as of now a move inside business training towards demeanor changing perspectives and goals, coordinating concentration toward energetic/movement based absolutely instructing techniques.

Krueger (2005) states that if business people secure the thought procedure round entrepreneurial addressing and movement, entrepreneurs at any rate have a speculative outline toward affecting behavior, which is a standout amongst the most typical wants of entrepreneurial training. It has been contended that the accentuation in cutting

edge establishments approach is about totally at the subjective factor, consequently ignoring emotional and psychological components of knowledge improvement Gibb (2005). Various researchers contend that activity-based approach while outlining enterprise aides and bundles Neck, Greene (2011). Most examinations on aging have neglected to remember it's naturally full of feeling measurement.

2.1.3 Resource-Based Theory

Barney describes resources as being, all assets, competencies, organizational processes, firm attributes, information, managed via the company that allows the firm to conceive of and put in force strategies that improve performance and effectiveness. As a way to gain competitive advantage, companies should each accumulate and successfully accumulate the important sources, which need to be precious, unique, complex to imitate and hard to substitute (Barney, 2001). So, in widespread the basic consciousness of the useful resource-based view has been on the company as an entire and the total variety of its resources, rather than especially analyzing the function of the entrepreneur.

Alvarez and Busenitz (2001) contend that some entrepreneurs configure their assets to innovate and achieve competitive benefit. Teece (2007) makes use concept of dynamic capabilities to give an explanation for the potential of firms to create innovative responses to converting market opportunities.

2.2 Entrepreneurial Education

In the contemporary society, entrepreneurial education has emerged as a crucial portion of industrial and academic policy framework in many nations (Hytti & O'Gorman, 2004). Motivation is a key driver for entrepreneurial training as well enterprises approaches in which entrepreneurial processes should motivate learners to start a venture and earn profit Mahieu (2006).

2.3 Entrepreneurial Orientation

Entrepreneurial orientation concept was developed by Miller (1983). It is made up of three dimensions; innovativeness, pro-activeness and risk taking. Innovativeness is the firm's capacity and readiness to support new ideas and creativity which may result in new products/services Lumpkin, Dess (1996), while pro-activeness is the pursuit of opportunities and competitive rivalry in fully expecting future interest to make change and shape the business condition Lumpkin, Dess (2001). Relating to risk-taking, it is the firm intentionally dedicating resources to ventures with chance of significant yields but may also entail a possibility of high failure.

2.4 Empirical Literature Review

Ilyas, Zahid, Rafi (2015) carried out a study on effect of entrepreneurship education on desire and intention for venture creation: An Empirical Study of Entrepreneurs and Non-Entrepreneur Graduates. The results indicated that entrepreneurship education has been presented and promoted in many countries and at many institutions of higher education; little is known at this point about the effect of these courses to the students.

Elert, Anderson and Wennberg (2014) conducted research on effects of entrepreneurship education in secondary school on long-term entrepreneurial performance. Using propensity score matching, Rosendahl Huber et al., (2012) found that while JACP participation builds the long-term likelihood of starting a firm as well as entrepreneurial incomes, there is no impact on firm survival.

Salmanulfarisi (2014) conducted a study on Entrepreneurship Education and New Venture Creation after Graduation: An Empirical Study of School of Rural Technology And Entrepreneurship Development (Sorted) Rano Kano State Polytechnic, Northern Nigeria. The goal of the study was to evaluate the effect of entrepreneurship education on polytechnic students after graduation. The findings of the study were that entrepreneurship education does not provide self-employment to graduated students due to financial challenges and lack of government support.

Ipate and Pârvu (2014) conducted a study to determine the influence of entrepreneurial education success factor for the Romanian SMEs. Focus of the paper is the entrepreneurial education, by analyzing the impact of training on the entrepreneurial success in Romania. The findings revealed that the effects of training on awareness and attitudes were muted, training appearing to double intention rates but not activity rates.

Graevenitz, Harhoff, Weber (2010) determined the impact of entrepreneurship education. Entrepreneurship education rates high on policy agendas in Europe and the US, but little research is done to assess its impact. Using ex-ante and ex-post-survey responses from students, the study revealed that the course has significant positive effects on students' self-assessed entrepreneurial skills.

Aurora (2010) surveyed the attitudes of advanced education students to new venture creation. Higher education institutions (HEIs) play a vital job in the generation of high-tech 'entrepreneurial capacity'. As entrepreneurship education gives focuses on creation of new ventures, there is an urgent need for a better understanding of the attitudes of students, potentially the entrepreneurs of the future. Findings revealed that advanced education students recognized that their interest in new venture creation would be improved if their foundation brought them into contact with the networks needed to start new businesses and put entrepreneurial students in contact with each other.

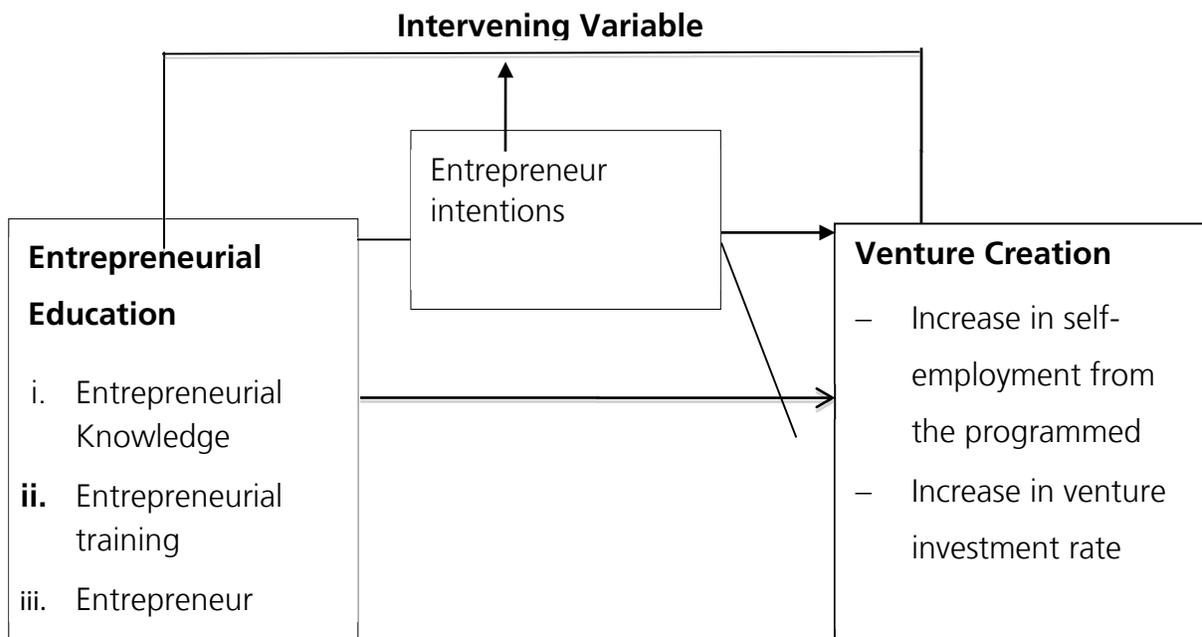
Lee, Chang, Lim (2005) conducted research on impact of entrepreneurship education, A Comparative Study of the U.S. and Korea. The findings of the study revealed that Korean students, have a lower level of the intention of venture creation and confidence, knowledge and ability of venture creation, and of the significance of entrepreneurship education than their American counterparts, can reach about the same levels after taking entrepreneurship related courses.

Howard and Rasheed, (2000) conducted research on assessment of developing Entrepreneurial Potential in Youth by determining the impact of entrepreneurial education and venture creation in United State of America. Prior research has not addressed whether educational intervention and new venture creation will affect the development of

entrepreneurial talent prior to the collegiate level. Students were assigned randomly to one of the 13 treatment classes based on whether their homeroom teacher was selected by the principal to participate in the program. This research concludes that entrepreneurship education and experience can affect psychological attributes commonly associated with entrepreneurs.

2.5 Conceptual Framework

Figure 2.1: The Conceptual Model



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

This research study adopted a cross-sectional descriptive survey design. Mugenda and Mugenda (2003) contend that a cross-sectional-descriptive survey design enables researchers to summarize and organize data in an effective and meaningful way. The study sought to offer a description on what is happening on the field in respect to the situation being assessed. The cross-sectional study was designed to provide the exploratory features that constitute of entrepreneurial intention between individual students at Jomo Kenyatta University of Science and Technology and KCA University in Kenya with their intentional propensity to venture into an enterprise.

3.2 Target Population

2500 students taking entrepreneurship course in Jomo Kenyatta University of Agriculture Science and Technology, KCA University and Nairobi University (2016).

3.3 Sample and Sampling Technique

3.3.1 Sample Frame

This study used Slovin's formula to determine the sample size of the study.

The sample size of this study was calculated from the Slovin's formula.

The study adopted a sample size of 345 on-going students in selected universities, which was selected using simple random sampling technique.

3.4 Data Collection Instruments

The study used both primary and secondary data. The questionnaire was used to collect primary data. The closed-ended questions provide more structured responses to facilitate tangible recommendations Cooper and Schindler (2011).

3.5 Data Collection Procedure

Questionnaires were used to collect primary data.

3.6 Pilot Testing

The study selected a pilot group of 35 respondents from the target population for the purpose of pilot study.

3.7 Data Analysis and Presentation

Quantitative data was analysed using Statistical Package for Social Sciences (SPSS Version 21) for Microsoft windows, which includes descriptive analysis and inferential analysis. Content analysis was used for qualitative data collected through open-ended questions. Inferential regression was done to test the relationship between entrepreneurial education and venture creation among the student students

Regression analysis to test H1

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon \dots\dots\dots (i)$$

Where;

Y = Venture Creation

X1= Entrepreneurial knowledge acquisition

X2= Entrepreneurial skills training

X3= Entrepreneurial orientation

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 = Beta coefficients and

ϵ = Error term

The study was hypothesized that there entrepreneur venture creation has a significant invention role in the relationship between entrepreneurial education and venture creation by student.

The two multiple regression equations' are;

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon \dots\dots\dots (i)$$

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \epsilon \dots\dots\dots (ii)$$

Whereby Y = Venture Creation, X1= Entrepreneurial knowledge acquisition, X2= Entrepreneurial skills training, X3= Entrepreneurial orientation, X4 =Venture Intention, while β_1 , β_2 , β_3 , β_4 , and β_5 are coefficients of determination and ϵ is the error term.

3.7.1 Convergent Validity

After conducting a CFA, the results of item loadings and their respective values were reported. The items were significantly loaded on the proposed factors with loading higher than 0.5.

3.7.2 Discriminant validity

A number of measures were used to assess the discriminant validity of the outer model. The study used coefficient of determination (R2) for the endogenous variables, the Forenell Lacker Measure and the Stone-Geisser Test (2). The R2 values of entrepreneurial education, venture intention and venture creation were determined.

3.7.3 Model Test for Goodness of Fit

Analysis of variance was also used to test whether the overall models were statistically significant by indicating whether or not R2 could have occurred by chance alone. The F-ratio that was generated in the ANOVA table measures the probability of chance departure from a straight line. The P- value of the F-ratio generated should be less than 0.05 for the equation to be statistically significant at 95% confidence interval. If the P- value is greater than that, then the equation is not statistically significant. For the individual variables, p values of their coefficients generated in the regression analysis must be less than 0.05 for their relationship to be concluded significant at 95% confidence interval. Principal Components Analysis regression method that cut the number of predictors to a smaller set of uncorrelated components was used to control multi-collinearity and auto correlation.

3.7.4 Testing for mediation and moderation

The study tested the Mediation effects of the variables. The study used Smart PLS moderating effect tool, to determine the differences in R2, which uses the venture intention indicator approach recommended as suggested by Hair et al., (2013).

CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSION

4.1 Response Rate

Out of 345 administered questionnaires, only 314 responded in time for data analysis. This translated into 91% response rate and considered appropriate to derive the inferences regarding the objectives of the research.

4.2 General information

67% of the respondents were male while 33% of the respondents were female. 42% of the respondents were aged between 26 to 30 years, 33% were aged between 21 to 25 years. Most 17% of the respondents were above 30 years of age while 8% of the respondents were aged between 15 to 20 years. This implies that most of the students in the universities undertaking entrepreneurial education were of age and could be able to give the information requested.

What substantially influenced selection on entrepreneurship course

From the findings, majority 83%, 75%, 70% and 67% of the respondents indicated that parents, entrepreneurs they knew, friends and acquaintances and the work colleagues substantially influenced them in selection of entrepreneurship course. Most 66%, 58% and 50% of the respondents indicated that fellow students, media and college tutor and supervisor substantially influenced them in selection of entrepreneurship course.

Whether operating any business

71% of the respondents were operating a business while 29% of the respondents were not operating any business.

The kind of business operated

Majority 88% and 85% of the respondents indicated that they were operating retail shop and supplier's kind of business. Most 76% and 65% of the respondents were operating hairdressing and consultancy business while 24% of the respondents were operating cab business.

Supportive programme that university has provided

Majority 54% of the respondents indicated that the university had provided supportive programme besides the normal entrepreneurial course while 46% of the respondents indicated that the university had not provided supportive programme besides the normal entrepreneurial course.

Available options that have enabled to venture and start own business

65% of the respondents indicated that besides the entrepreneurship course, there were available options that have enabled students to venture and start their own business while 35% of the respondents said no.

4.3 Entrepreneurial Education and Venture Creation

4.3.1 Entrepreneurial Knowledge Acquisition and Venture Creation

Whether taking of entrepreneurial course influence starting enterprise

64% of the respondents indicated that taking of entrepreneurial course influenced them in starting the enterprise, 32% of the respondents indicated that taking of entrepreneurial course influenced them in starting the enterprise while 4% of the respondents did not know whether taking of entrepreneurial course influenced them in starting the enterprise.

Entrepreneurial Knowledge Acquisition influence on starting enterprise

Majority of the respondents strongly agreed that they develop innovative business ideas and execute, they gain skills on making decision during uncertainty in running their business and that they are able to market products of my enterprises as indicated by mean of 4.76, 4.66 and 4.63 with standard deviation of 0.69, 0.53 and 0.64.

4.9 Regression Analysis Entrepreneurial Knowledge Acquisition and Venture Creation

4.9.1 Model Summary

Table 4.1: Model Summary

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		Sig F
1	.886 ^a	.785	.765	.63239		.001

a. Predictors: (Constant), Entrepreneurial education

b. Dependent: Venture Creation

From the model summary Table 4.1, Adjusted R2 is called the coefficient of determination and indicates variation in entrepreneurial knowledge acquisition and venture creation. From the model summary Table 4.1, the value of adjusted R2 is 0.765. This implies that, there was a significant variation of 76.5% of entrepreneurial knowledge on venture creation as $P=0.001 < 0.05$.

4.9.2 ANOVAa

Table 4.2: ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.553	1	6.5528	7.524	.001 ^b
	Residual	18.169	312	0.0566		
	Total	24.722	313			

a. Predictors: (Constant), Entrepreneurial Education

b. Dependent: Venture Creation

The study established that there existed a significant goodness of fit between variable as F-test (F=7.524, P=0.01< 0.02). The calculated F=7.524 far exceeds the F-critical of 2.772. This implied that the model formed within entrepreneurial knowledge acquisition and venture creation has a significance goodness of fit at 95% confidence level.

Table 4.3: Variables Co efficiencies

Coefficients a Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
	1 (Constant)	3.051	.311		
Entrepreneurial Education	0.512	.047	.583	10.904	.0042

c. Predictors: (Constant), Entrepreneurial Education

d. Dependent: Venture Creation

$$Y = 3.051 + 0.649X_1 + e$$

From the regression results, the study found that entrepreneurial education had a significant influence on venture creation as $r = 0.512$, $p = .001 < 0.05$, $t = 10.904$. The study implied that increase in entrepreneurial education would lead to significant increase in venture creation.

4.3.2 Entrepreneurial training and Venture Creation Whether training influence starting own enterprise

77% of the respondents indicated that training in entrepreneurial course influence starting their own enterprise while 23% of the respondents indicated that training in entrepreneurial course influence starting their own enterprise.

Entrepreneurial training influence starting enterprise

Majority of the respondents strongly agreed that they develop strategies appropriate for their business, they increase their level of confidence on being trained on entrepreneurship and that teaching activities influence their innovativeness in business as indicated by mean of 4.75, 4.68 and 4.59 with standard deviation of 0.71, 0.56 and 0.58. Most of the respondents strongly agreed that they can market their products and service effectively and they are more creative through teaching in entrepreneur course as indicated by mean of 4.57 and 4.55 with standard deviation of 0.58 and 0.57.

Regression Analysis

Table 4.4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig.
1	.854a	.729	.715	.564	.001

a. Predictors: (Constant), Entrepreneurial training
b. Venture Creation

Result in Table 4.4 indicated that a variation of $R^2 = 0.729$ in venture creation can be attributed to changes in entrepreneurial training as a 72.9% change. This implied that change in entrepreneurial training would lead to change in venture creation among graduates.

ANOVA

Table 4.5: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.707	1	8.707	12.675	.000 ^a
	Residual	20.186	312	.0647		
	Total	28.893	313			

a. Predictors: Entrepreneurial Training
b. Venture Creation

The study established that there existed a significant goodness of fit of the model $Y = \beta_0 + \beta_1 X_1 + e$. Based on the findings, in Table 4.5 the results indicate the $F_{Cal} = 12.675 > F_{Cri} = 2.318$ at confidence level 95 % and sig is $0.000 < 0.05$. This implies that there was a goodness of fit of the model fitted for entrepreneurial education and venture creation.

Table 4.6: Coefficient Analysis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.450	.972		8.522	.015
	Entrepreneurial Training	.670	.065	.512	10.304	.002

a. Predictors: (Constant), Entrepreneurial Training

b. Venture Creation

Coefficient Analysis

The established regression equation was;

$$Y = 2.450 + 0.670X_1 + e$$

Regression results revealed that entrepreneurial training has significance influence in venture creation among graduate as indicated by $\beta_1 = -0.670$, $p = 0.002 < 0.05$, $t = 10.304$. The implication is that as increase in entrepreneurial training lead to an increase in venture creation among the graduate by $\beta_1 = 0.670$.

**4.3.3 Entrepreneurial Orientation
Personal characteristics significance**

56% of the respondents indicated that their personal characteristics have a significant influence starting their enterprise. Most 38% of the respondents indicated that their personal characteristics have a significant influence starting their enterprise while 13% of the respondents did not know whether their personal characteristics have a significant influence starting their enterprise.

Degree of agreement with the statements

From the findings, majority of the respondents strongly agreed that they do not easily give up in the face of competition and always encourage their employees to exercise their ingenuity and creativity freely at work as indicated by mean of 4.85 and 4.77 with standard deviation of 0.67 and 0.66.

4.8 Regression Analysis

The study sought to determine whether there existed a significant relationship between entrepreneurial orientation and venture creation among the graduate.

4.8.1 Model Summary of Regression Analysis

Table 4.7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.83(a)	.689	.657	0.34

a. Independent: (Constant) Entrepreneurial Orientation

b. Dependent: Venture Creation

Adjusted R^2 was 0.689 indicating that there was a variation of 68.9. % of venture creation varied with variation in entrepreneurial orientation hence entrepreneurial orientation would lead to a significant variance in venture creation among graduate.

4.8.2 ANOVA (b)

Table 4.8: ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.813	1	5.813	7.191	0.01(a)
	Residual	18.408	312	.059		
	Total	24.211	313			

a. Independent: (Constant) Entrepreneurial Orientation

b. Dependent: Venture Creation

The study established that there existed a significant goodness of fit of the model $Y = \beta_0 + \beta_1 X_1 + e$. Based on the findings, in Table 4.8 the results indicate the $F_{Cal} = 7.191 > F_{Cri} = 3.166$ at confidence level 95 % and sig is $0.000 < 0.05$. This implies that there was a goodness of fit of the model fitted for entrepreneurial orientation and venture creation.

4.8.3 Regression Coefficients (a)

Table 4.9: Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.768	.275		3.640	0.01
	Entrepreneurial Orientation	0.519	.0475	0.857	10.931	0.03

a. Independent: (Constant) Entrepreneurial Orientation

b. Dependent: Venture Creation

$$Y = 5.768 + 0.519X_1 + e$$

The study found that a unit increase in entrepreneurial orientation would lead to increase in venture creation among graduates by a factor of 0.519 with P value of 0.002 ($r = 0.519$, $P = 0.03 < 0.05$). This implied that there exist a positive relationship between entrepreneurial orientation and venture creation.

4.3.4 Entrepreneurial Venture Intention

Whether self-employed in the course of the entrepreneurial course

From the findings majority 96% indicated that they will be self-employed after completion of the entrepreneurial course, 2% indicated they will not be self-employed on completion of their course while 2% of the respondents were not sure whether to be self-employed on completion of the entrepreneurial course.

Table 4.10: Whether self-employed in the course of the entrepreneurial course

Yes	Frequency	percent
Yes	301	96
No	7	2
I do not know	6	2
Total	314	100

Entrepreneurial intention fluctuated throughout the programme

Majority of the respondents indicated that their entrepreneurial intention continue to be stable throughout the entrepreneurial course to a great extent as indicated by a mean of 4.75 with a standard deviation of 0.47. The results indicated that graduate entrepreneurial intention fluctuated a little throughout the course and decreased after all to a moderate extent as indicated by a mean of 3.00 with a standard deviation of 0.39. The study also found that graduate entrepreneurial intention fluctuated strongly throughout the course but decreased after all to a less extent while graduate indicated their entrepreneurial intention fluctuated a little throughout the course but increased after all to a less extent as indicated by a mean of 2.17 with a standard deviation of 0.76.

Entrepreneurial education and Entrepreneurial Intentions

The respondents indicated that entrepreneurial education made them make all efforts to start a venture to a great extent as indicated by a mean of 4.74 with a standard deviation of 0.75. The respondents indicated that entrepreneurial training was making undergraduates to be more enthusiastic about starting their own business and making their deciding that goal was to ensure they become entrepreneurs to a very great extent as indicated by a mean of 4.66 and 4.65 with a standard deviation of 0.65 and 0.43 respectively. Also the respondents indicated that entrepreneurial trainings was making undergraduates to be more determined to starting an enterprises and that with adequate resources there were willing to start a business to a very great extent as indicated by a mean of 4.53 and 4.50 with a standard deviation of 0.76 and 0.50 respectively.

4.4 Venture Creation

Extent to which starting a business influence income earning

The respondents indicated that starting a business influence their income earning to a very great extent as indicated by 84%, to a great extent as indicated by a 9% and to a less extent as indicated by 7% of the respondents. This clearly indicated that entrepreneurship educate contribute to starting of businesses to earn income among graduates from the selected universities.

Venture creation

Most respondents strongly agreed that they were able to make profit from their venture, created self -employment and increasing customer every day as indicated by a mean of 4.60, 4.56 and 4.51 with a standard deviation of 0.58,

0.31 and 0.71 respectively. The respondents agreed that they were able to earn income from their business as indicated by a mean of 4.47 with a standard deviation of 0.63, able to create employment for other as indicated by a mean of 4.26 and increasing investment for the business as indicated by a mean of 3.83 with a standard deviation of 0.58 respectively. This demonstrated that entrepreneurial education foster venture intention and venture creation among graduates from the selected universities.

4.5.1 Model Summary

Table 4.11: Model Summary

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate
1	.79(a)	.624	.619	0.29

a. Predictors: (Constant) Entrepreneurial Education (Construct of entrepreneurial knowledge acquisitions, entrepreneurial training and entrepreneurial orientation)

b. Dependent: Venture Creation

Adjusted R2 is called the coefficient of determination which indicates how venture creation varies with variation in Entrepreneurial Education which is a construct of entrepreneurial knowledge acquisitions, entrepreneurial training and entrepreneurial orientation. The study established that there existed a significance positive variation between venture creation and entrepreneurial education as $r = 0.624$.

4.5.2 Analysis of variance

Table 4.12: ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.538	1	4.538	11.034	0.000(a)
	Residual	16.255	312	.0521		
	Total	20.793	313			

a. Predictors: (Constant) Entrepreneurial Education (Construct of entrepreneurial knowledge acquisitions, entrepreneurial training and entrepreneurial orientation)

b. Dependent: Venture Creation

The study established that there existed a significant goodness of fit between variables as $F = 11.034$, $P = 0.000 < 0.05$. The calculated $F = 11.034$ far exceeds the F-critical of 3.582. This implied that there exist variation goodness of fit between the entrepreneurial education and venture creation.

4.5.3 Coefficients Estimate of the Variance

Table 4.13 : Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.975	0.467		8.127	0.01
	Entrepreneurial Education	0.7335	0.0735	1.915	9.980	0.000

a. Predictors: (Constant) Entrepreneurial Education

b. Dependent: Venture Creation

From the results regression analysis in Table show that when entrepreneurial knowledge acquisition, entrepreneurial training and entrepreneurial orientation are combining, they have significant and positive relationship with venture creation among the graduate as $r=0.7335$, $P=0.000<0.05$. This implied that $Y = 3.975+0.7335X$ (where X =Composite - entrepreneurial knowledge acquisition, entrepreneurial training and entrepreneurial orientation).

4.8 Regression Analysis

The study sought to determine influence of venture intention in the relationship between entrepreneurial education and venture creation among the graduate.

4.8.1 Model Summary of Regression Analysis

Table 4.14 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854(a)	.729	.721	0.265

a. Independent: (Constant) Entrepreneurial intention

b. Dependent: Venture Creation

Adjusted R2 was 0.721 indicating that there was a variation of 72.1. % of venture creation varied with variation in entrepreneurial intention.

4.8.2 ANOVA (b)

Table 4.15: ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.604	2	4.802	12.025	0.000(a)
	Residual	21.894	311	.0704		
	Total	31.498	313			

- a. Independent: (Constant) Entrepreneurial Orientation
b. Dependent: Venture Creation

The study sought to test the hypothesis that entrepreneurial intention and interaction terms between entrepreneurial education and venture intention. Based on the findings, in Table 4.15 the results indicate the $F_{Cal} = 12.025 > F_{Cri} = 2.279$ at confidence level 95 % and sig is $0.000 < 0.05$. This implies that there was a goodness of fit of regression model with venture creation as intervening variable and interaction variable of entrepreneurial education and venture creation and explain variance in venture creation.

4.8.3 Regression Coefficients (a)

Table 4.16: Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.621	.375		5.896	0.01
	Entrepreneurial education	0.319	.0395	0.310	8.089	0.000
	Venture intention	0.618	.056	0.598	11.045	0.801
	Interaction term	0.437	.0502	0.397	8.705	2.143

- b. Dependent: Venture Creation

The study found that a unit increase in entrepreneurial intention would lead to an increase in venture creation by factor 0.618. The study established that increase in insignificant increase in venture creation among graduates as P value of $0.801 > 0.05$ ($r = 0.519$, $P = 0.03 < 0.05$). This implied that the entrepreneur's intention has no significant influence on entrepreneurship education and venture creation.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Study Findings

The study sought to establish the relationship between entrepreneurship educations, venture intention on venture creation among entrepreneurial graduate in Kenya focusing on selected universities in Kenya. The study established that students were operating businesses such as retail shop and supplier's, hairdressing and consultancy business. As a result of substantial influence by their parents, entrepreneurs they knew, friends and acquaintances and the colleagues at work, students did a selection of entrepreneurship course. The study revealed that fellow students, media and college tutor and supervisor also substantially influenced students in selection of entrepreneurship course. The study revealed that the university had provided supportive programme besides the normal entrepreneurial course. Besides the entrepreneurship course, there were available options that have enabled students to venture and start their own business.

5.1.1 Entrepreneurial Knowledge Acquisition and Venture Creation among Graduate from Selected Universities in Kenya.

Students develop innovative business ideas and execute, gain skills on making decision during uncertainty in running their business and are able to market products of my enterprises. It was further revealed that students understood and applied the necessary operations management for their venture, through entrepreneurial training students started their enterprise through value addition and that entrepreneurial foster development of new ideas and start their business and became more innovative through entrepreneurial training that enabled them to start a business. The study revealed that entrepreneurial education had a significant influence on venture creation as $r = 0.512$, $p = .001 < 0.05$, $t = 10.904$. hence increase in entrepreneurial education would lead to significant increase in venture creation.

From the findings of the second objective, training in entrepreneurial course influenced students in starting their own enterprises. Students are also able to generate ideas, they are trained on management skills hence manage their enterprise effectively and that they have been on trained on how to apply technology in their business. From the regression results the study found that entrepreneurial training has significance influence in venture creation among graduate as indicated by $\beta_1 = -0.670$, $p = 0.002 < 0.05$, $t = 10.304$. Hence an increase in entrepreneurial training lead to an increase in venture creation among the graduate by $\beta_1 = 0.670$.

The third objective of the study was to assess influence of entrepreneurial orientation on venture creation among graduate from selected universities in Kenya. The study established that personal characteristics have a significant influence starting their enterprise. It was revealed that students do not easily give up in the face of competition and always encourage their employees to exercise their ingenuity and creativity freely at work. The study further revealed that students always carry out market survey to understand their market adequately, they are always strategic in decision making, always invite others to share the risk where they think are viable, always seek new information to keep ahead of their competitors and always make decision on the basis of their convictions. From the regression results the study established that increase in entrepreneurial orientation would lead to increase in venture creation

among graduates by a factor of 0.519 with P value of 0.002 ($r = 0.519$, $P = 0.03 < 0.05$) thus there exist a positive relationship between entrepreneurial orientation and venture creation.

The study established that students preferred to be self-employed after completion of the entrepreneurial course. Entrepreneurial education made students to make all the efforts to start a venture, be more enthusiastic about starting their own business and making their deciding that goal was to ensure they become entrepreneurs. Entrepreneurial trainings were making undergraduates to be more determined to start enterprises and that with adequate resources there were willing to start a business. The study established that starting a business influence their income earning as they were able to make profit from their venture, created self -employment and increasing customer every day.

The study revealed that entrepreneurial knowledge acquisition, entrepreneurial training and entrepreneurial orientation combined have a significant and positive relationship with venture creation among the graduates ($r = 0.7335$, $P = 0.000 < 0.05$). Further regression results indicated that entrepreneurial intention would lead to an increase in venture creation by factor 0.618. However, the increase is insignificant in venture creation among graduates ($P = 0.801 > 0.05$). This led to ascertain that entrepreneur intention has no significant intervening influence on entrepreneurship education and venture creation.

5.3 Conclusion

The study concluded that entrepreneurial education had a significant influence on venture creation among the graduate in the selected universities in Kenya. Increase in entrepreneurial education would lead to significant increase in venture creation. Entrepreneurial course influenced graduate in starting the enterprise , develop innovative business ideas and execute, gain skills on making decision during uncertainty in running their business, able to market products of their enterprises, applied the necessary operations management for their venture, promote value addition and that entrepreneurial foster development of new ideas and start their business and became more innovative through entrepreneurial training that enabled them start a business.

The study concluded that entrepreneurial training has significance influence in venture creation among graduate hence an increase in entrepreneurial training lead to an increase in venture creation among the graduate. The was informed by results indicating that training in entrepreneurial course influenced graduate in starting their own enterprises, develop strategies appropriate for their business, increase their level of confidence, improve innovativeness in business, market their products and service effectively and they are more creative through teaching in entrepreneur course., able to generate ideas, trained on management skills hence manage their enterprise effectively and that they have been on trained on how to apply technology in their business.

The study concluded that increase in entrepreneurial orientation would lead to increase in venture creation among graduates and that there exists a positive relationship between entrepreneurial orientation and venture creation. The results indicated that personal characteristics have a significant influence starting their enterprise, students do not

easily give up in the face of competition and always encourage their employees to exercise their ingenuity and creativity freely at work, sees opportunity and not problems in new situations, value addition has always been priority in all activities in their enterprise and do not wait for certainty in the market to put in their investment.

The study concluded that entrepreneurial knowledge acquisition, entrepreneurial training and entrepreneurial orientation are combine have significant and positive relationship with venture creation among the graduate. Entrepreneurial intention would lead to an increase in venture creation but the increase is insignificant in venture creation among graduates. This led to ascertain that entrepreneur intention has no significant intervening influence on entrepreneurship education and venture creation.

5.4 Recommendations

The study recommend that entrepreneurial education should be enhanced and entrepreneurial education curriculum develop as this would led to increase startups enterprises, enable student to be innovative and start businesses , gain skills on making decision during uncertainty in running their business, able to market products of their enterprises, applied the necessary operations management for their venture, , promote value addition and create more employment opportunities and foster economic growth.

The study recommends that entrepreneurial training should be enhancing to foster venture creation among graduate hence an increase in entrepreneurial training lead to an increase in venture creation among the graduates.

The study recommends that there be should an increase in entrepreneurial orientation as this would lead to increase in venture creation among graduates and that there exist a positive relationship between entrepreneurial orientation and venture creation. The study recommends that entrepreneurship education should be designed to enhance entrepreneurial knowledge acquisition, entrepreneurial training and entrepreneurial orientation to increase venture creation among the graduate. Entrepreneurial intention would lead to an increase in venture creation among graduates in the county. This would further motivate graduate to increase their entrepreneur intention and eventually venture into business. Entrepreneurship education influence self-employment after completion of the entrepreneurial course, creating more job opportunities, increase income earning and improve economic development in the county.

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Enhancing University Industry Linkages through Marketing and Entrepreneurship

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Abstract

The link between universities and the industry has been of concern both locally as well as globally for a long time, for the obvious reason that it is perceived to enhance organizational performance. The gap between universities and the industry has been widening in developing countries leading to lost opportunities for joint research, product development and job creation. Marketing and entrepreneurship could play a pivotal role in reversing the weakened linkages by building mutual relationship and strengthening bonds between universities and industry. This study sought to examine the role of marketing and entrepreneurship as important tools for enhancing the university industry linkages. The study sought to determine the aspects of marketing and entrepreneurship that have the highest influence on enhancing the university industry linkages. It considered the nexus of entrepreneurship and marketing exemplified by the attributes of innovativeness, creativity, risk taking; proactive orientation and value creation as crucial for creating, nurturing and developing sustained linkages between universities and industry. The study targeted 150 small and medium sized enterprises in Nairobi City County, out of which 143 responded, giving a response rate of 95 %. Data was collected using structured questionnaire administered to managers of small and medium sized enterprises engaged in manufacturing, retail, banking and hospitals. Survey data collected from small and medium enterprises will be analyzed through descriptive statistics including mean scores and standard deviation. We will test our hypothesis through regression analysis. The study found that marketing practices especially those focused on the product, promotion and distribution were key in enhancing University industry linkage. With regards to entrepreneurial orientation, risk taking, and creativity indicators were found to be more important than innovation in enhancing university-industry linkages.

Key words: Marketing practices, Entrepreneurship, University –industry linkage, Innovation, creativity, risk taking

Introduction

Historically, academic and industry had a productive relationship, each helping to support the other's mission (Prager & Omenn, 1980). However, the links between university and industry weakened after World War II approaching their lowest point in the early 1970s. The widening gap between university and industry was due to conservative stance each adopt. Universities are reluctant to enter in long-term, detailed agreements with industry for fear of compromising academic freedom. Academicians often disdain the profit orientation and distrust the motives of the industry. In contrast, university research is viewed by industry as ivory tower with no serious thought to applicability and reliance on publication for academic credit.

Academic systems of knowledge continue to be disconnected from business systems with regards to industry relevance and commercial application of knowledge (Mascarenhas et al., 2017). The increasingly widening gap between universities and industry can be reduced through enhanced linkages. Collaboration between universities and industry is important for development of the relevant skills, the creation and dissemination of applied knowledge and the promotion of entrepreneurship. Marketing and entrepreneurship are very closely related and are seen to be major drivers in the growth of an enterprise, as they seek to create customer value through identifying the needs of customers and coming up with relevant and innovative strategies to serve those customers. Marketing is concerned with customer's satisfaction and ensures that what is produced by the industry is of relevance to the consumer and enhances customer satisfaction. On the other hand, entrepreneurship deals with innovative ways of coming up with products that satisfy the consumer, at a profit to the producer. An entrepreneur is therefore more concerned with the profit and sustainability of the business, while a marketer is more concerned with customer satisfaction. Entrepreneurial universities adopt mechanisms to support the transfer of knowledge and innovations from academia to industries (Guenther & Wagner, 2008). Marketing and entrepreneurship are expected to enhance the linkages between university and industry by ensuring that what universities do as sources of knowledge is of relevance to the industry.

Both University and industry are producers as well as users of goods and services and as such enhancing the university industry linkage can greatly enhance development within those institutions. Universities generate knowledge, ideas and processes that are applied by the industry to come up with goods and services that serve the customers. Universities can and should therefore act as engines of knowledge, ideas and processes that are passed over to the industry for use in generating new products that are needed by the market.

If industry realizes that the knowledge, ideas and processes they get from the industry is of relevance, they will seek to strengthen their link. Similarly, universities can feel rewarded if they benefit from the entrepreneurial activity of enterprises, through getting people to come from the industry to do university training or through getting more people who are interested in university education. The industry produces products that are of superior quality and enhance customer satisfaction and this can also contribute to strengthening university industry linkage. This study seeks to determine how marketing and entrepreneurship can be used to enhance the University industry linkages.

The objective of the study is therefore to determine the role played by marketing and entrepreneurship in enhancing the university industry linkage.

Literature Review

Institutional linkages and networks in a social structure are explained by social network theory. Initially developed to explain workplace behaviour, social exchange theory has been extended to predict interactions between individuals and institutions in a social set-up (Cropanzano & Mitchell, 2005). The theory involves series of interdependent interactions that generate obligations. The theory assumes that relationships evolve over time based on trust and leading to mutual commitments accomplished through rules of exchange. Reciprocity is an example of the rules of exchange. In every action, there must be a reaction. In other words, something has to be given by one party and something returned by the receiving entity. Therefore, institutional interdependence involves mutual and complimentary arrangements. Brass (1992) opines that social network theory broadly explains how a group of actors are connected by sets of social relationships. The actors in a social system are diverse and play different roles in the social and economic system. Depending on the level of analysis, the social actors may consist of individual persons, organizations, industries and countries. According to the social network theory, the linkages between people or institutions are based on emotional, economic and political needs such as friendship, authority, and economic gain among others (Jaafar, Abdul-Aziz & Sahari, 2009). According to Schiller and Brimble (2009), institutional linkages are efficiently established by personal ties between individuals across institutions. Continuous communication helps to establish mutual trust and develops personal contacts into strong institutional linkages. Social ties between actors are established through information exchange and trust.

Institutions of higher learning and industry are interdependent and share common economic interests. Whereas the core business of universities entails teaching, research and community outreach, industry relies on universities for applied knowledge, technology and labour to pursue their financial and social goals. Consequently, both industry and universities must build mission enhancing relationships with each other with the aim of developing and sharing valuable resources and capabilities such as information, technology and finance. Strong ties between institutions create mechanisms through which detailed knowledge, modern technology and financial resources are shared for mutual institutional gain. Granovetter (1982) argue that the strength of linkages is influenced by organizational history is reflected through frequency of interactions, reciprocity in exchanges and trust building initiatives.

The linkages between universities and industry encompass a wide range of configurations and activities (Narayanan, 2009). The many different types of university-industry relationships vary depending on the objectives, scope and institutional arrangements. When universities and industry develop common understanding and working relationships, the research and teaching activities are likely to respond to the technology and labour needs of the industry. University-industry linkages make the learning process more relevant to students. In addition, instead of focusing on pure academic research, the linkages of university and industry encourage academia to develop tools and knowledge that has commercial application. Blackman and Segal (1993) argue that the collaboration between industry and university enable the latter to attract funds for teaching and research. University-industry linkages

encourage collaborative research with the possibility of attracting public funding particularly where the government is involved either as a participant or a facilitator. Moreover, linkages provide universities with the opportunity to access modern equipment for research and industrial technology. Improved interactions between universities and industry create opportunities for consultancy. Hence, universities may generate additional income from consultancy fees.

Universities are constantly involved in research with possibilities of generating innovations. However, for the innovation process to be productive, universities must be linked to industry to mainstream the generation of the knowledge with commercial application of the knowledge. Such linkage is dependent on the level and strength of interaction between universities and industry. Strong linkages between universities and industry can enhance basic research-innovation links. Universities can work with industry players to mainstream entrepreneurship training in the various degree programmes well as short courses. Therefore, university-industry linkages play a role in ensuring that the university faculty are sensitized to the training needs of industry and creates the environment where entrepreneurs get relevant training from the universities.

Since the 1990s, the strategic direction of universities has moved beyond the traditional teaching and research towards addressing the needs of industry and becoming a key player in stimulating economic growth and entrepreneurship. Guimon (2013) observes that the priority and scope of university-industry linkages differ between developed and developing countries. Whereas in developing countries, poor quality of education and weak financing of universities limit their capacity to engage industry, developed countries tend to actively engage industry in both training and research. Nonetheless, several barriers to linkages between universities and industry persist, key among them being the inherent mismatch between research orientation of firms and universities. While industry is impatient to get results for strategic action, but slow in publication for purposes of deriving competitive advantage over rivals, academia are keen on quicker publication for academic credit. In addition, most universities focus more on basic research as opposed to applied research whose commercial results are valued by the industry. Therefore, universities to a large extent do not align their research agenda with industry needs and consequently fail to court firms in the industry. Michaela (2000) observes that several developed countries have established strong linkages between universities and industry. However, the approach taken towards building relations between institutions of higher learning and industry vary from one country to another. For instance, in North America, universities have had long standing relations with industry. On the other hand, technical colleges in Germany have very strong links with industry and are training grounds for technical labour force required by industry.

The role of marketing can be seen through the traditional mix variables of the product, promotion, pricing and distribution. Universities can provide relevant information that leads to increased product quality and customer service. Similarly, Universities can guide organizations on designing and executing promotion mix programs that maximize on effectiveness of the programs and cut down on unnecessary expenses. Universities can also be source of information regarding pricing and distribution structures. Marketing has become increasingly important in the higher education industry in recent time due to declining state funding and competition for students. The marketing

of higher education encourages enrollment and assists in fund raising (Pelletier & McNamara, 1985). Although many colleges speak of engaging in marketing, they do not practice it. Effective marketing involves involvement by the whole university both administrative and academic staff.

The study tested the following two hypotheses:

H1: Entrepreneurship plays no role in facilitating the link between University and industry

H2: Marketing practices have no role in facilitating the link between University and industry

Research Methodology

The study adopted a descriptive cross-sectional survey design. A random sample of 150 Small and medium scale enterprises located in Nairobi were used in the survey. The study area was divided into four regions: The Central Business District (CBD), Westlands and Eastlands, Kawagware, South B and C. Six data collection assistants were engaged, and two assistants sent to each region. Descriptive cross-sectional survey enables a researcher to collect plenty of data for describing a phenomena and testing relationships between variables at one point in time. This is very appropriate for this study as the nature of data is about the marketing practices and entrepreneurial orientation applicable to the organizations at the time of collecting the data. A semi structured questionnaire, mainly with Likert type questions was used to collect data. Analysis of the data was done using the SPSS tool, and the analysis involved computing mean scores, correlation coefficients and linear regression analysis. Validity and reliability of the data collection instrument was assessed by first carrying out a pilot study to determine the correctness and relevance of the questions by determining the Cronbach's alpha coefficient.

Study findings

Out of the 150 questionnaires distributed, 143 were returned, giving a response rate of 95.3%. The high response rate may be attributed to the method of data collection which was mainly by personal delivery of questionnaire and collection of the completed questionnaire by the assigned research assistant. The distribution of the firms that participated in the survey, by type of business is shown in Table 1.

Table 1. Type of Business

Business type	Frequency	Percent	
Retail, supermarket, bakery, grocery	75	52.4	
Law, insurance, advertising	15	10.5	
Medical, hospital, chemist	26	18.2	
Mpesa, ICT, art and design	18	12.6	
Automobiles, hardware	9	6.3	
Total	143	100.0	

As shown in the table, majority (52.4%) of the businesses surveyed were in the category of Retail, supermarket and bakery and grocery class, while the lowest category represented was Automobiles and hardware (6.3%).

The researchers sought to know the highest level of education by the respondents. The results are shown in Table 2.

Table 2: Education level

Level of study	Frequency	Percent
Secondary	27	18.9
College	45	31.5
University	71	49.7
Total	143	100.0

As indicated, the study found that only 18.9% were of secondary level education and below, while all the others (81.1%) had College to University level education. This shows that most SME entrepreneurs are highly educated. High literacy levels could be attributed to the free primary education policy introduced by the government that has increased transition rates from lower levels of study to higher levels.

Table 3 presents results for the number of people employed by the enterprises.

Table 3: Number of employees

No of employees	Frequency	Percent
Less than 10	90	62.9
11 – 49	9	6.3
50 – 99	44	30.8
Total	143	100.0

As shown in table 3, of the businesses that participated, 90 (62.9%) were micro enterprises (had less than 10 employees), while 44 (30.8%) were Medium enterprises (had 50 to 99 employees). The rest (6.3%) were small enterprises with number of employees ranging between 11 and 49. Thus, majority of the enterprises were micro level businesses.

In terms of age, it was found that 34.3% had been in existence for less than 5 years, while only 28.7% had been in existence for more than 10 years. This indicates that most of the MSMEs are relatively young.

The results were subjected to reliability test, as indicated in Table 4.

Table 4: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.883	.882	34

The Alpha Based on Standardized Items was 0.883 which is indicative of high level of reliability of the data collection instrument. This showed that the data collection instrument was very reliable, given than a coefficient of 0.7 is regarded as the threshold for good reliability of a data collection instrument.

Descriptive statistics were done for indicators of University –industry involvement by the businesses, and the results are shown in Table 5.

Table 5: University Industry involvement

	N	Mean	Std. Error	Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Do you agree that your firm works closely with Universities	143	2.99	.118	1.412
Do you agree that you allow students to do internship in your organization	143	3.20	.126	1.502
Do you agree that some of the ideas you use in your organization are obtained from researchers at the University	143	2.61	.105	1.256
Do you agree that working with the university can be very useful source of ideas for your firm	143	4.15	.078	.934
Valid N (listwise)	143			

Among the statements about be that ‘working with the university can be very useful source of ideas for your firm’ had the highest mean score (Mean = 4.14, SD .934) while the statement ‘the firm allows students to do internship in its organization’ followed (Mean = 3.196, SD .126). The lowest was the statement ‘some of the ideas you use in your organization are obtained from researchers at the University’ (Mean = 2.61, SD .105). The results of descriptive statistics enabled us to identify the factors with the highest mean score, to be used as the representative of University industry involvement.

Table 6 presents descriptive results for marketing practices

Marketing practices	N	Mean	Std. Deviation
Relevance of quality of our products/programs in enhancing your linkage with universities	143	3.69	1.502
Relevance of public relations (e.g. convincing customers and the publics have positive attitude towards our company and products) in enhancing your linkage with universities	143	3.73	1.321
Relevance of availability of products packing in enhancing your linkage with universities	143	3.67	1.320
Valid N (listwise)	143		

Table 6 shows the descriptive statistics of the marketing practices. The highest factor was 'Do you agree that public relations (e.g. convincing customers and the publics to have positive attitude towards our company and products) is relevant in enhancing your linkage with universities (mean = 3.73, SD 1.32), while the other two factors had a mean score of 3.69 and 3.67 respectively. A number of other indicators tested had scored less than 3.5 and were therefore left out. These were indicators in relation to pricing, and a few others on the area of product and promotion. This indicates that public relations, quality of educational programmes, and programme packaging are very relevant in enhancing University industry linkages.

Table 7: Entrepreneurial orientation

Risk taking ability	N	Mean	Std. Deviation
To what extent have you become more confident in taking decisions assisted in strengthening your link with the university	143	4.09	1.074
To what extent is value creation assisted in strengthening your link with the university	143	4.23	.984
To what extent is seeking to give more value to your customers assisted in strengthening your link with the university	143	4.43	1.032
To what extent are you focused on the being ahead of your competitors in value creation assisted in strengthening your link with the university	143	4.32	1.045
Innovation and creativity	N	Mean	Std. Deviation
To what extent has your organization become innovative in strengthening your link with the university	143	3.20	1.351
To what extent is increased shared experience assisted in strengthening your link with the university	143	3.37	1.203
To what extent is coming up with new ways of serving your customers assisted in strengthening your link with the university	143	3.66	1.145
To what extent is coming up with improved process assisted in strengthening your link with the university	143	3.62	1.233
To what extent is being the first to come up with new ideas in the industry assisted in strengthening your link with the university	143	3.35	1.360

All the indicators of risk taking scored more than 3.5 on a scale ranging between 1 and 5. Hence, we selected factors that had more than 4. The highest was 'To what extent is seeking to give more value to your customers assisted in strengthening your link with the university' (Mean =4.43, SD 1.032). This was followed by the statement 'To what extent are you focused on the being ahead of your competitors in value creation assisted in strengthening your link with the university' (Mean =4.32, SD 1.045). All the indicators for Creativity and innovation scored less than 4, implying that universities are either less innovative or do not have innovations of practical value to the industry. Consequently, innovation and creativity are less important in enhancing university industry linkage than risk taking aspect of entrepreneurship. Between Innovation and creativity, creativity indicators scored higher. For instance, the statement 'To what extent is coming up with new ways of serving your customers assisted in strengthening your link

with the university', an indicator of creativity, had a mean score of 3.66 and standard deviation of 1.145. The highest indicator of Innovation was 'To what extent is increased shared experience assisted in strengthening your link with the university (Mean = 3.37, SD = 1.203). The results mean that the linkage between university and industry is dependent on the industry's desire to understand ways for dealing business risks.

Hypotheses Testing

In testing the hypotheses, regression analysis was done using the factors for marketing practices, entrepreneurial orientation and those of University industry linkages. University industry linkage was taken as the dependent variable, and the factor 'Do you agree that working with the university can be very useful source of ideas for your firm has been used to represent all the factors', since it had the highest mean score.

Hypothesis One sought to test the statement "Entrepreneurship plays no role in facilitating the link between University and industry". This was done by first using the indicators of risk, then those of innovation and creativity. The model summary, ANOVA statistics and regression coefficients are shown in Table 8.

Table 8: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.444a	.197	.162	.85512		
ANOVA Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.470	6	4.078	5.577	.000b
	Residual	99.446	136	.731		
	Total	123.916	142			

a. Dependent Variable: University-industry linkage

b. Predictors: Risk taking

Indicators of risk as an aspect of Entrepreneurship have an R2 value of .197 meaning that these factors explain up to 19.7% of the linkages between university and industry. The F-value of 5.577 is significant at 0.000. The model coefficients are shown in Appendix 1.

The beta coefficients of the regression model suggest both positive as well as negative influence. Negative coefficients are for the extent to which taking calculated risk to minimize losses assisted in strengthening the link between industry and university. The Statements with positive beta coefficients comprised: 'To what extent are you able to bear the risks in better way assisted in strengthening your link with the university', 'To what extent have you become more confident in taking decisions assisted in strengthening your link with the university' and 'To what extent is value creation assisted in strengthening your link with the university'.

The mixed results of both positive and negative beta coefficients show that certain practices of entrepreneurial activity may negatively affect the University-industry linkages, while others are very good at enhancing University industry linkages.

The regression results for the influence of innovation and creativity on the university-industry linkage are presented in Tables 9 and 10.

Table 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.476a	.227	.204	.83319		
ANOVAa Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.116	4	7.029	10.125	.000b
	Residual	95.800	138	.694		
	Total	123.916	142			

a. Dependent Variable: University-industry linkage

The regression model has a R2 value of 0.227 and F value of 10.125 which is significant at 0.000. The results indicate that innovation and creativity explained 22.7% of the variations in linkages between universities and industry. The regression coefficients results are presented in Appendix 2.

Indicators of innovation and creativity show a positive relationship with University industry linkages. The highest indicator 'To what extent is being the first to come up with new ideas in the industry assisted in strengthening your link with the university' (Std. beta = 0.455, $p \leq 0.05$), followed by 'To what extent is coming up with improved process assisted in strengthening your link with the university' (Std. Beta = 0.259, $p \leq 0.05$).

Overall, it may be pointed out that entrepreneurship has a positive influence on the linkage between University and industry. As indicated by the positive beta coefficients. We therefore reject the hypothesis.

Hypothesis 2 sought to test the statement 'Marketing practices have no role in facilitating the link between University and industry. Regression analysis between marketing practices and University-industry linkage were done, and the results are as shown in Table 10.

Table 10: Model Summary and ANOVA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.333a	.111	.091	.89045		
ANOVA Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.703	3	4.568	5.761	.001b
	Residual	110.213	139	.793		
	Total	123.916	142			

a. Dependent Variable: University-industry linkage

b. Predictors: (Constant), marketing practices

The model has R² value of 0.111 and an F value of 5.761, significant at 0.001. The results imply that marketing practices had significant, but weak influence on university-industry linkages. Marketing practices explained 11.1% of the variation in university-industry linkages. Table 11 shows the beta coefficients of the regression model for the relationship between marketing practices and university-industry linkages.

Table 11: Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	3.108	.287	.104	10.816	.000
	To what extent is branding such as name and quality of our product relevant in enhancing your linkage with universities	.176	.063	.249	2.783	.006
	To what extent is public relations (e.g. convincing customers and the publics to have positive attitude towards our company and products) relevant in enhancing your linkage with universities	.073	.059	.104	1.249	.214
	To what extent is availability of products packing relevant in enhancing your linkage with universities	.060	.065	.084	.920	.359

a. Dependent Variable: University-industry linkages

All the indicators of marketing were positive, meaning that marketing practices play a significant positive role in enhancing University-industry linkage. The indicators consisted of: 'To what extent is branding such as name and quality of our product relevant in enhancing your linkage with universities' (Std. beta = 0.249), 'To what extent is public relations (e.g. convincing customers and the public to have positive attitude towards our company and products) relevant in enhancing your linkage with universities' (Std. beta = 0.104). We therefore reject the hypothesis.

Discussion

The study has established that marketing and entrepreneurship play an important role in enhancing University industry linkages. There are many marketing practices that are important to entrepreneurs, and these will make them want to learn more from universities as long as they perceive these practices as helping them to grow their business. Similarly, there are entrepreneurial oriented indicators that help to enhance university industry linkages. Entrepreneurship appear to be have more influence on university-industry linkages as compared to marketing practices. The results are consistent with the social exchange theory that emphasizes reciprocity in social interactions and relationships. Unlike marketing which largely dwells on improving sales performance of marketing entity, entrepreneurship delivers mutual benefits both the university and the industry. Risk taking had the most significant contribution to building university-industry linkages as compared to innovation and creativity. This means that the industry is interested in partnering with the universities to manage risks. Whereas innovation and creativity have the greatest potential for creating mutually beneficial products to both university and industry, the reality is that few faculty members engage industry in carrying out research that generate results with commercial value.

Our results show that industry attaches little value to research carried out by universities. This is an indication that universities in Kenya are not actively involved in carrying out industry relevant research that lead to innovations. Universities concentrate on one core goal of teaching and spare little time for ground breaking research. In fact, a lot of basic research carried out by universities is largely for academic credit and career progression through publications. While it is true that academic research may have practical value, industry is impatient to the extent that they cannot take time to read through the various academic publications churned out by universities each year. Instead, industry is more keen on practical outputs of research such as technologies, managerial problem solving models and patents. Unless the universities change their research approach to address industry needs, then academic research output is of little relevance to industry. The results of the study suggest that of all the marketing practices, public relations had the greatest influence on improving linkages between universities and industry. The results are consistent with postulations of the social exchange theory which argue that personal ties between individuals in institutions and institutional image have significant influence on the strength of relationships between collaborating entities. Public relations not only build image of the organization, it makes the entity desirable to other parties and entices them to engage on mutual relations based on trust. Our results therefore, suggest that universities must manage their image to endear the industry for collaborative engagement.

Implications

The issue of university industry linkage has continued to attract attention among academicians and practitioners for over three decades, because of the significant role it could play in enhancing organizational performance and converting theory to practice. This study therefore has implications to both theory and practice, in the sense that policy makers need to identify those areas that can be used to enhance university-industry linkages. The results of the study support the social exchange theory and illustrate image, trust and reciprocity are fundamental ingredients in building linkages between universities and industry. The study has brought to the fore the areas that require more focus in encouraging University industry linkage.

Recommendations

The study found that marketing practices play a role in enhancing university industry linkages. It is therefore recommended that marketers identify specific areas which they can work together with universities in order to strength the link between university and industry. Similarly, the study found that innovativeness creativity and risk taking are important in enhancing university industry. Creativity was found to be less prominent in enhancing the link. It is therefore recommended that universities engage in industry relevant research to build stronger linkages with the industry. It is therefore recommended that universities focus on creative and innovative ways that are attractive to entrepreneurs in order to strengthen the link with the industry.

Suggestions for further research

This study focused on the entrepreneurs or the industry part of the University Industry linkage. Future work could focus on the university side of the link, in order to determine their views about strengthening the University Industry linkages.

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Appendix 1: Regression Coefficients for risk taking and U-I linkage

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.690	.359		7.485	.000
To what extent is calculated risk to minimize losses assisted in strengthening your link with the university	-.084	.129	-.113	-.652	.515
To what extent are you able to bear the risks in better way assisted in strengthening your link with the university	.157	.097	.203	1.619	.108
To what extent have you become more confident in taking decisions assisted in strengthening your link with the university	.410	.132	.471	3.114	.002
To what extent is value creation assisted in strengthening your link with the university	.066	.104	.069	.630	.530
To what extent is seeking to give more value to your customers assisted in strengthening your link with the university	-.025	.159	-.027	-.156	.876
To what extent are you focused on the being ahead of your competitors in value creation assisted in strengthening your link with the university	-.151	.139	-.169	-1.084	.280

a. Dependent Variable: University-industry linkage

Appendix 2: Regression Coefficients a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	3.281	.276		11.873	.000
	To what extent is coming up with new ways of serving your customers assisted in strengthening your link with the university	-.196	.075	-.241	-2.608	.010
	To what extent is increased shared experience assisted in strengthening your link with the university	-.051	.070	-.066	-.728	.468
	To what extent is coming up with improved process assisted in strengthening your link with the university	.196	.069	.259	2.852	.005
	To what extent is being the first to come up with new ideas in the industry assisted in strengthening your link with the university	.312	.059	.455	5.303	.000

a. Dependent Variable: University-industry linkage

An applied approach of teaching entrepreneurship – “Mully Model of Applied Entrepreneurship Teaching”

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Abstract

This paper stresses the importance of entrepreneurship education towards enhancing sustainable development in Kenya. The problems facing the country ranging from high rate of poverty, youth and graduate unemployment; overdependence on foreign goods and technology.

This paper therefore argues that entrepreneurship education will equip the students with the skills with which to not only be self-reliant, but to become wealth creators. The intervention level of entrepreneurship education has been at tertiary institutions and universities. This paper argues that attitudes and values are acquired at formative stage in life. Based on literature review of the models that have been used and yielded positive results, this paper proposes an innovative approach to the teaching of entrepreneurship education that is inclusive of pre-school, primary, secondary, tertiary and university levels. This paper explores the “Mully Model of Applied Entrepreneurship Teaching” as a case study, using interviews, surveys and reviewing relevant MCF data. The organization’s success factors within the Kenyan context are discussed.

The paper also recommended that educational programs at all levels of education should be made relevant to provide the youth the needed entrepreneurial skills. Further, it recommends that experiential learning methodologies be emphasized in the delivery of entrepreneurship education.

Keywords: entrepreneurship education, Training Approaches, Kenya, Mully Model of Applied Entrepreneurship Teaching

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1.Introduction

The development of any country is determined by the economic production forces and the way these are organized, in most countries the development has depended a great deal on the private sector. Entrepreneurship has played a major role. According to Ogundele (2007), the promotion and development of entrepreneurial activities would aid the diversification and development in a country. Not only can entrepreneurship alleviate poverty, but according to Osuagwu (2002) entrepreneurial development should be perceived as a catalyst to increase economic growth and create job opportunities.

“The successful contribution of entrepreneurship to poverty alleviation and economic development ...depends on entrepreneurship training and orientation”, (Ogundele, Akingbade, Akinlabi (2012).

In Kenya and other African countries, poverty is often described as a socio-economic problem that affects growth development in a region. There are a number of initiatives across Kenya and Africa that are addressing this issue. One initiative is Mully Children’s Family, a local NGO, which among other things provides training, education and a home(s) for the some of the poorest most marginalized members (children and youth) of society. Over the last 26 years a model of applied Entrepreneurship Teaching has been developed and implemented resulting in over 6400 self-employed individuals and business owners, this model will be called “The Mully Model of Applied Entrepreneurship Teaching” in this study.

The goal of this study is to analyze the methods used for the entrepreneurial training as well as some of the factors that have led to the success of the “Mully Model of Entrepreneurial Teaching”.

Drucker (1985) states that entrepreneurship is perceptiveness to change and the entrepreneur is someone who is always searching for opportunities, is willing to adjust, responds to and exploits the given opportunities. He notes that entrepreneurship is practiced behavior and is a discipline that can be learned like any other. Kuratko and Hodgetts (2004) note that the simplest way of studying entrepreneurship is that entrepreneurs cause entrepreneurship.

Entrepreneurship is seen as a process which includes the effort of an individual (or individuals) in recognizing viable business opportunities and gathering and managing the resources needed to take advantage of those opportunities (Hill and McGowan, 1999).

According to Ogundele, Akingbade and Akinlabi, in their study based in Nigeria, “The successful contribution of entrepreneurship to poverty alleviation and economic development ...depends on entrepreneurship training and orientation” (2012). True entrepreneurship according to Ogundele (2000) “is the process of emergence behavior and performance of entrepreneur.” The authors of the study suggest that entrepreneurial education should be more closely looked at, as a long-term poverty alleviation method.

Entrepreneurship education takes place in a structure setting in which entrepreneurial competencies, “which refer to the concepts, skills and mental awareness used by individuals during the process of starting and developing their growth-oriented ventures” (Ogundele, Akingbade, Akinlabi, 2012).

There are several studies on the contribution of entrepreneurship to sustainable economic development, job creation, innovation and resource allocation, but there is little attention on effective entrepreneurship training and education on poverty alleviation, especially in Kenya. Most efforts to reduce poverty are not tailored towards entrepreneurship education and organization of training for the marginalized in society. The objective of this paper is therefore to examine the success of the “Mully Model of Entrepreneurial Education”, practiced at Mully Children’s Family, as well as identify the factors that have led to the success of the model.

The two hypotheses in focus are the following:

H1: The Mully Model of Entrepreneurship Education alleviates poverty and creates wealth

H2: The Actiotope Model is a model that explains the effectiveness of the Mully Model of Entrepreneurial Education

2. Conceptual Framework

Entrepreneurship Education is a purposeful intervention by education in the lives of the learners to impact entrepreneurial qualities and skills to enable the learner to survive and thrive in the world of business (Ogundele, 2012). According to Alberti, Sciascia and Poli (2004) entrepreneurship education is defined as “the structured formal conveyance of entrepreneurship competencies which in turn refers to the concepts, skills and mental awareness used by individuals during the process of starting and developing their growth-oriented ventures”.

According to Mullins (2010) training is the process of purposely and systematically acquiring job related knowledge skill and attitude in order to effectively and efficiently perform tasks in an organization. These skills are the foundation of any entrepreneurial education. However, there are additional skills needed for the entrepreneur.

The skills required by the entrepreneur can be classified as follows:

- i. Technical skills
- ii. Business Management
- iii. Personal entrepreneurial skills

Technical skills include: Technical know-how in the field of expertise, writing, listening, oral presentation, organizing, coaching and being a team player. Business management skills involve areas involved in starting, developing and managing an enterprise. The personal entrepreneurial skills are those that separate the entrepreneur from a manager, these include risk-taking, being innovative, being change-oriented, being persistent and being a visionary leader among others.

Understanding that Entrepreneurial Education is the conveyance of specific competencies, behaviors and talents, a model of effective education and talent development, the "Actiotope Model" by Ziegler will be explored as an explanation of the high effectiveness of the Mully Model of Entrepreneurial Education.

For the purposes of this study, it is important to understand the definition of the poverty used, when discussing the origins of the beneficiaries of the NGO Mully Childrens Family, who have graduated from the MCF programs and started their own businesses and entrepreneurial ventures. The beneficiaries of this program all come from absolute poverty backgrounds; absolute poverty according to Miller (1968), Wedderburn (1974), Plotnick and Skidmore (1983), World Bank (1996) refers to individuals, families or groups who lack the resources to obtain the types of diets needed to enjoy some fixed minimum standard of living determined by a given society. They are excluded from ordinary living patterns, customs and activities.

3. Literature Review

Wiklund and Shepherd (2003), Luthje and Frank (2002), Charney and Liecap (2000) all confer that a positive correlation exists between education and business creation. Timmons and Spinelli (2204) and others agree that entrepreneurship can be learnt and would make a positive contribution to improving the entrepreneurial orientation of people. According to Wiklund (1999), entrepreneurial orientation consists of two components: 1. Action orientation which results in entrepreneurial behavior and 2. Mental orientation or way of thinking.

Previous studies suggest that identifying and supporting potential entrepreneurs throughout their training and the educational process could produce many long-term economic benefits (McClelland & Winter, 1969; Hatten & Ruhland, 1995 & Hansemark, 1998). A system that supports ventures based on entrepreneurship education designed to stimulate and facilitate entrepreneurial activities, would most likely result in a lower unemployment rate, increased establishment of businesses, and fewer failures of existing businesses. Entrepreneurship education can also be an important strategy to foster job creation (McMullan, Long, & Graham, 1987). Effective youth entrepreneurship education prepares young people to be responsible, enterprising individuals who become entrepreneurs or entrepreneurial thinkers and contribute to economic development and sustainable communities (Consortium for Entrepreneurship Education).

In spite of the above findings, there are indications that the formal education system is not particularly supportive of entrepreneurship and possibly suppresses entrepreneurial characteristics (Chamard, 1989). Although not in the Kenyan context, Kourilsky (1990) found that 25% of kindergartners demonstrate important entrepreneurial characteristics (need for achievement and risk taking) compared to 3% of high school students, these findings could most likely be transferred to the Kenyan context. Almost 30 years ago, Singh (1990) concluded that traditional pedagogy should be reoriented to emphasize and value entrepreneurship in order to cultivate an enterprise culture. Kourilsky and Walstad (1998) suggested that stimulating entrepreneurial attitudes through educational experiences and exposure at the pre-collegiate level could encourage entrepreneurship as a career choice.

Stumpf, Dunbar, and Mullen (1991) also argued for the benefits of behavioral simulations in teaching entrepreneurship. The need for entrepreneurship education to include skill-building components such as negotiation, leadership and creative thinking, exposure to technological innovation and new product development were proposed by McMullan and Long (1987).

Entrepreneurship programs need to also teach skills in detecting and exploiting business opportunities and incorporate detailed and long-term business planning (Vesper & McMullan, 1988). The concept of transition stages of entrepreneurship education suggesting programs geared toward creativity, multi-disciplinary and process-oriented approaches, and theory-based practical applications was introduced by Plaschka and Welsch (1990).

In the entrepreneurship literature, there is some degree of consensus about a number of psychological attributes as predictors of entrepreneurial behavior. According to Kourilsky (1980) the following are the most relevant: need for achievement; creativity and initiative; risk-taking and setting objectives; self-confidence and internal locus of control; need for independence and autonomy; motivation, energy and commitment; and persistence.

A model to explain the effective development of entrepreneurial skills, traits and ...is the Actiotope Model by Ziegler. Although this model has been tested and used to specifically explain giftedness development, it will be explored in this study as a model to also explain successful development of entrepreneurial skills and traits, and to explain the Mully Children's Family success rates of fostering high percentages of graduates who become self employed, start business and additionally create jobs for others.

3.1 An overview of the Actiotope Model of Giftedness

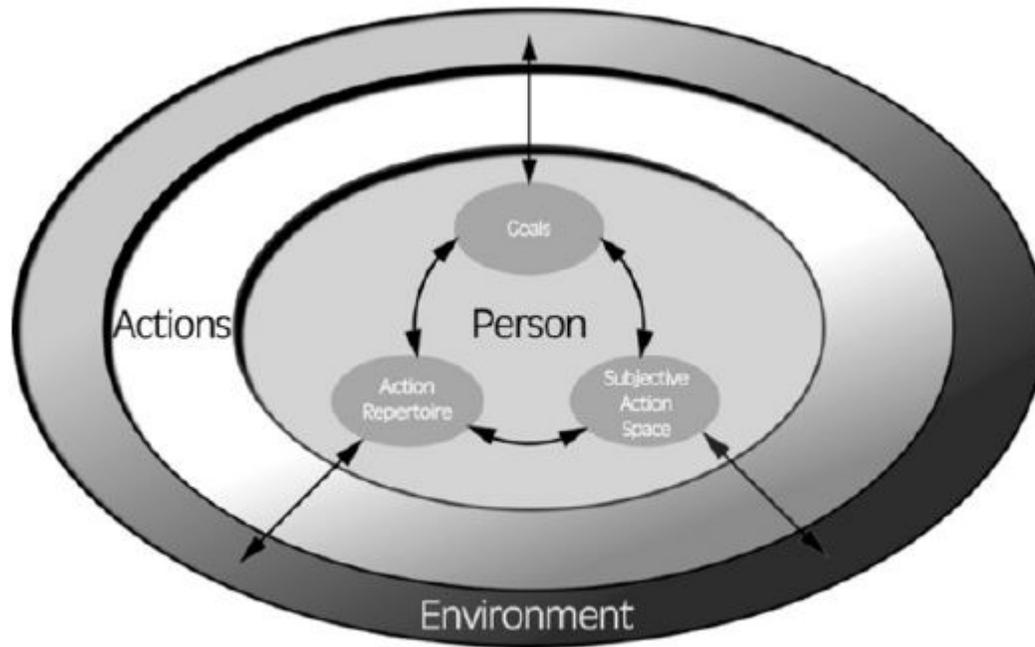
As defined by Ziegler, Vialle, and Wimmer (2013): an actiotope includes an individual and the material, social and informational environment with which that individual actively interacts.

This systemic model focuses on goal-directed actions that lead toward skill development. When extraordinary achievements are reached through talent development it is regarded as intelligent adaption to the environmental stimuli (Ziegler, 2005). There are three perspectives on actiotopes to be distinguished in the model: The component perspective, the dynamic perspective, and the systemic perspective (Ziegler et al., 2013).

3.1.1 The Component Perspective

There are four components that can be conceptually distinguished in an actiotope (Ziegler, 2005).

Figure 5: The four components of an Actiotope (Vladut et al. 2013)



1. Each person has a unique repertoire (see figure 1).

This is made up of all the actions a person is able to perform. During development and socialization, action repertoires expand considerably, increasing the capacity of an individual to interact effectively with his or her environment. The development of excellence can be viewed as the development of an effective action repertoire that enables a person to meet the challenges of a domain such as mathematics, soccer or sculpture (Vladut et al., 2013).

2. The individual's goals make up the second component.

3. The environment in which the person interacts.

4. The final component is the subjective action space.

This is the mental space that produces action possibilities, which combine the other three components. Actions are selected from the action repertoire that could lead to a particular goal (Vladut et al, 2013). An underlying assumption is that achievement and expertise levels are reflected in the differences in the actiotope components. Actiotopes are in a constant process of adaptation to changing inner states and changing environments (Ziegler & Stoeger, 2008;

Ziegler et al., 2014). To come to terms with these changes and use them effectively, Ziegler (2005) proposed the following five dynamic functions;

1. Individuals must be able to act in different ways in order to expand their action repertoire.
2. They must also be able to assess the correctness of an action, that is, whether the desired goal has been attained as a result of executing an action (or sequence of actions).
3. Individuals need to be able to recognize if they can apply certain actions in a specific situation (applicability).
4. The interactions of individuals in their setting must be anticipative, that is, individuals must build up effective action repertoires not only as a response to past events, but also in order to deal with novel challenges (Vladut et al, 2013).
5. Individuals need useful and effective feedback from the environment they are in. This function requires access to ordered sequences of actions and information regarding their correctness. Examples are feedback loops like the TOTE strategy (Test-Operate-Test-Exit; see Miller, Galanter, & Pribram, 1960) or cycles of self-regulated learning (Stoeger, Sontag, & Ziegler, 2014).

3.1.2. The Systemic Perspective

Although, as Ziegler and Baker state, actiotopes as systems are usually quite stable, but the development of excellence is an extreme process of adapting to an actiotope which must undergo a number of significant changes (Ziegler & Baker, 2013). To do this the adaptation needs more resources than are available in the actiotope. Hence new resources have to be continually introduced in order to ensure the actiotope's modifiability while maintaining its stability.

3.1.3. Learning Resources in the Actiotope: Educational and Learning Capital

As Vladut et al, (2013) state, like the Actiotope Model of Giftedness, educational implementation of system approaches focus on the provision, optimization and effective use of resources. There are two kinds of resources, namely "Educational Capital" and Learning Capital" (Ziegler and Baker, 2013).

Educational capital is in the environmental component of the actiotope and thus includes all exogenous resources that can be used to foster a person's learning progress in a domain. Learning capital is in the person component of the actiotope and thus encompasses all endogenous resources that can be used to foster a person's learning progress in a domain (Vladut et al, 2013). Educational capital and learning capital are concepts that are relational. Different actiotopes may be rich in resources on one field helping to attain extraordinary achievements in specific areas, but not in others.

Table 1, adapted from Vladut et al, (2013) gives an overview of the five forms of Educational Capital and the five forms of Learning Capital, (as discussed previously) as well as examples which illustrate their significance for learning. In the "Learning resources within the Actiotope:

Table 17: Definitions and Illustrations of the five forms of educational capital and the five forms of learning capital

Type of capital	Definition ³	Illustration
Educational Capital		
Economic educational capital	Economic educational capital is every kind of wealth, possession, money or valuables that can be invested in the initiation and maintenance of educational and learning processes. (p. 27)	The socio-economic status of a family strongly influences their children's academic success (Hanushek & Kimko, 2000; Lynn & Vanhanen, 2002; Rindermann, Sailer, & Thompson, 2009).
Cultural educational capital	Cultural educational capital includes value systems, thinking patterns, models and the like, which can facilitate - or hinder - the attainment of learning and educational goals. (p27)	In East Asian countries learning and education are more highly valued than in Western countries. This reflects in students' recent achievements (Phillipson, Stoeger, & Ziegler, 2013).
Social educational capital	Social educational capital includes all persons and social institutions that can directly or indirectly contribute to the success of learning and educational processes. (p. 28)	In many studies, a mentor has been shown to be of utmost importance for the development of excellence (Bloom, 1985a, 1985b).
Infrastructural educational capital	Infrastructural educational capital relates to materially implemented possibilities for action that permit learning and education to take place. (p. 28)	Educational toys, libraries or resource rooms at school.
Didactic educational capital	Didactic educational capital means the assembled know-how involved in the design and improvement of educational and learning processes. (p. 29)	Training based on superior didactic know-how can easily yield improved effect sizes of at least half a standard deviation (e.g. Lipsey & Wilson, 1993).
³ The definition are quotes from Ziegler and Baker (2013)		
Type of capital	Definition	Illustration
Learning Capital		
Organismic learning capital	Organismic learning capital consists of the physiological and constitutional resources of a person. (p. 29)	Physical fitness is an important precondition, not only for physical activities and sports, but also for cognitive activities (Bellisle, 2004; Gottfredson, 2004).

Actional learning capital	Actional learning capital means the action repertoire of a person - the totality of actions they are capable of performing. (p. 30)	Elementary school students extend their action repertoire gradually and systematically by learning the basic arithmetical operations from initial simple mental counting processes prior to written calculations.
Telic learning capital	Telic learning capital comprises the totality of a person's anticipated goal states that offer possibilities for satisfying their needs. (p. 30)	Students who are alienated from school have very few or even no goals regarding their academic performance.
Episodic learning capital	Episodic learning capital concerns the simultaneous goal- and situation-relevant action patterns that are accessible to a person. (p. 31)	For example, a person who is skilled in a certain language is theoretically capable of saying any sentence in that language. But this does not guarantee, that this person will say the right thing, at the right time, in the right situation.
Attentional learning capital	Attentional learning capital denotes the quantitative and qualitative attentional resources that a person can apply to learning. (p. 31)	From a quantitative perspective, leisure activities can detract from the available time for learning (e.g. chatting, playing PC games, watching television), while anxieties can impair the quality of attention while learning.

4. Methodology

Firstly, this research analyses how many graduates from the Mully Children Family Programs, i.e. Vocational Training and Schools, High School Graduates, (some of which pursued Higher Secondary Schools through scholarships graduating with University degrees) became self-employed, started their own enterprises and showed entrepreneurial ventures.

Since Mully Children's Family keeps records of their beneficiaries, at least those adults who keep in contact with MCF, the method was to look at MCF documentation records upto August 2019, analyzing all those who started enterprises where individuals are self-employed, or which have created employment for others.

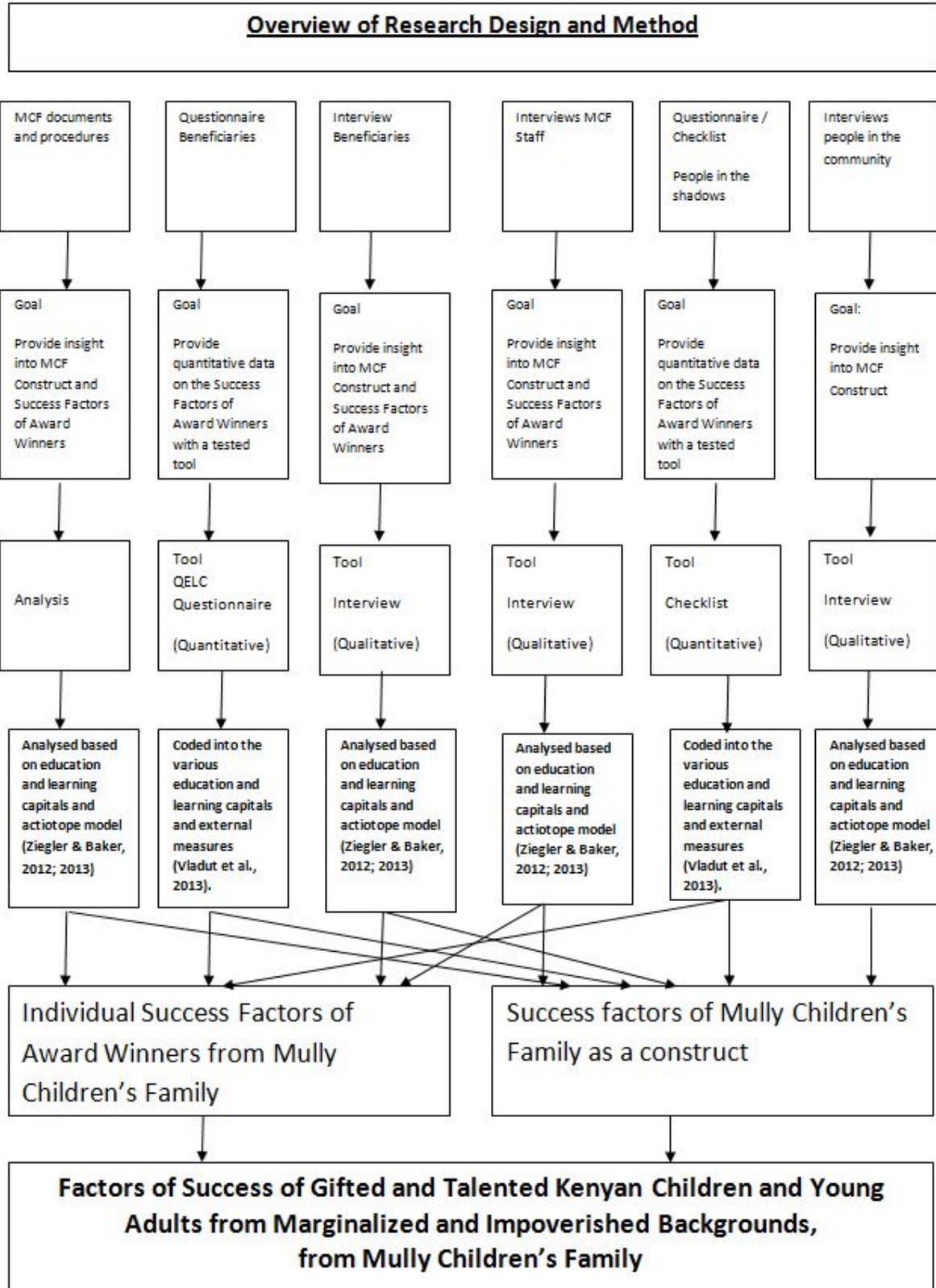
Secondly the high percentage and numbers those MCF beneficiaries especially those with vocational education, where the impact of MCF has a more direct impact on the direct development of entrepreneurial activities, since they start right out of the MCF schools posed the question, what in the NGO, Mully Children's Family produces such high entrepreneurial activities and willingness to start their own businesses?

The "Actiotope Model" by Ziegler is explored as a potential explanation, based on the research on Mully Children's Family (Rempel, 2017).

The research done on analyzing MCF's fit with Ziegler's Actiotope Model was carried out extensively (Rempel, 2017) with a mixed method approach. This included six elements: 1. A close analysis of the MCF procedures and documents 2. An in depth questionnaire of based on the QELC (Vladut et al, 2013). 3. Interviews of MCF Beneficiaries, 4. Interviews with MCF Staff, 5. Questionnaire Checklist based on a verified tool (Vladut et al, 2013) with people from within MCF chosen by award winners and high achievers as having a high impact in their lives, 6. Interviews with people in the community around the MCF locations.

A brief overview of the methods used in "Factors of Success of Gifted and Talented Kenyan Children and Young Adults from Marginalized and Impoverished Backgrounds, from Mully Children's Family" can be seen in the following image.

Figure 6



5. Findings

Of all the beneficiaries that have completed one of the MCF programs which include vocational training, high school and college or university education almost 46% have started their own enterprise, which equates to 6046 of 13200 beneficiaries.

These numbers have been separated again into various categories from level of education and numbers of jobs created.

The findings were put into two main categories; 1. University and Middle-College graduates, who received their post-secondary training outside of MCF and 2. Trades-Trained Entrepreneurs, who all received all of their training and education at MCF:

5.1.a. University and College Graduates

The findings reveal that of those receiving University Education and Middle College Education 20% and 12% respectively have started their own enterprise. Which in the Kenyan context, is not surprising since as Kinyanjui states in her study;

University graduates ... in Kenya are providing vast entrepreneurial spirit. ...graduates are fueling economic growth in rural central Kenya as they are setting up small businesses in manufacturing, retail trade and services. In addition, they are running businesses professionally and are self-motivated. They have a knack of taking calculated risks besides having a vision for their businesses. As they pursue their dreams, they are creating employment and contributing to poverty alleviation in the region. The graduates are providing impressive dynamism and business sense in terms of product diversity and production processes (p. 102, 2010).

Although the numbers and percentages of those graduating from University and middle Colleges could be impressive in most contexts, especially from the perspective of a developed economy, from a developing economy such as Kenya's economy it becomes astounding when one understands that all these graduates were originally severely marginalized members of the Kenyan society.

Furthermore, when one realizes that the 265 former MCF beneficiaries with college or university education have created over 540 jobs, in total creating work for more than 800 people in total. The impact on the economy and potential poverty alleviation could be extrapolated.

Table 18: Total Number of Graduates from MCF is 13200

Number of University and College Graduate Entrepreneurs of former MCF Beneficiaries since inception								
Education Level	% of total		Employees 1-5	Employees 6-10	Empl. 11-20	Empl 20+	Location (Kenya)	Location (Abroad)
University	4 % (528)	20% (107) Self-employed	80%	13%	5%	2%	95%	5%
		70% Employed					85%	15%
Middle College	10 % (1320)	12 % (158) Self-Employed	91 %	8%	1%	0	97%	3%
		80% Employed					99%	1%

5.1.b. Trades Traded Entrepreneurs

The findings reveal that those receiving Trades-training and education, which is completely carried out at one of the MCF Vocational Schools, has an even greater impact on starting a business and taking up entrepreneurial activities. The entrepreneurial activities are split into four groups based on the trades learned at MCF; 1. Carpentry and Joinery, 2. Tailoring Business, 3. Hairdressing and Beauty, 4. Welding and Fabrication, with between 69% to 93% of the graduates starting their own businesses, (as can be seen in the following table). These 5781 graduates have not only started their own enterprises but have created jobs for over 11 000 employees, creating work for almost 17000.

As Otuyas, Kibas and Otuya emphasize in their paper on teaching entrepreneurship in Kenya, "... The overall contributions of entrepreneurship education to creation of entrepreneurial qualities among the youth cannot be overemphasized", They further state that it is vital for the youth in Kenya to see entrepreneurship as a contributor to the economy and as a relevant occupational choice (p213,2013).

The comparison of the two groups reveals that the group of those who learned trades within MCF were more readily willing to pursue their own enterprise than those who visited post-secondary education institutions outside of MCF.

To explain the success of those who have started their own businesses, with large numbers coming from MCF vocational schools, the Actiotope Model as applied to MCF (Rempel, 2017) is explored as a model that would explain the high ratio of entrepreneurship from beneficiaries coming from Mully Children's Family.

Table 19: Number of Trades-Trained Entrepreneurs of former MCF Beneficiaries since inception

Trade	% of total		Employees 1-5	Employees 6-10	Empl. 11-20	Location (Kenya)
Carpentry and Joinery	17 % (2240)	70% (1568) Self-employed	95%	4%	1%	100%
		28% Employed				100%
Tailoring Business	24 % (3168)	69 % (760) Self-Employed	97 %	3%	0%	100%
		25% Employed				100%
Hairdressing & Beauty	20% (2640)	75% (1980)	98%	2%	0%	100%
		Employed 15%				100%
Welding & Fabrication	12% (1584)	93% (1473) Self-Employed	97%	3%	0	100%
		Employed 4%				100%

5.1.2. Findings of Actiotope Model to Explain Successful Entrepreneurial Training

The beneficiaries, who are the focus of this study, have grown up and been taught in an entrepreneurial environment. The CEO and founder of the Mully Children’s Family has built up a group of companies which generate income for the foundation and supply food for the over 3400 children in the care of the foundation.

At present there are 10 companies within the Mully Children’s Family. As can be seen in the brief overview in the table below.

The outer circle, or component of the actiotope at MCF is not only an environment where learners can effectively interact, (Rempel, 2017), but is an environment where entrepreneurial ventures are used to solve issues that arise when one wants to supply the needs of a growing number of marginalized beneficiaries.

The older beneficiaries who were the first graduates of the program, witnessed how Dr Charles Mully started one venture after another to meet the growing needs of the organization. The younger beneficiaries have been able to witness how the existing ventures have been expanding over the years, and how new ones have been added.

This then led to offer those learning trades to be able to walk out of the classroom and see how various skills are applied in the real world, within the MCF environment.

Members of the MCF management are regularly brought into the vocational training settings to explain how entrepreneurial skills are required within the business setting, as well as show how they are applied when MCF products are sold on the market outside of MCF.

With the founder Dr Charles Mully, being an entrepreneur, who models the traits needed to be able to effectively venture into entrepreneurship, the students and learners are not only taught the skill sets and the benefits of entrepreneurship but witness it and are encouraged to start their own business, as well as have a role model who regularly talks with the beneficiaries.

Table 20: MCF Entrepreneurial Ventures

Business Venture	Permanent Staff	Temporary Staff
MCF Farms Produce	60	300
MCF Farms Poultry	12	4
MCF Farms Livestock	10	6
MCF Farms Fisheries	4	2
MCF Tree Farm	25	72
MCF Tailoring Business	12	40
MCF Metal Work Fabrication	20	20
MCF Woodwork	25	20
MCF Consulting & Support Services	30	0
MCF Hospitality	7	12
TOTALS	205	476

Not only do MCF beneficiaries have an environment of entrepreneurship around them and a number of entrepreneurial models but they also are provided with intentionally planned educational capital, including all five types of educational capital: 1. Economic Educational Capital, 2. Infrastructure Educational capital, 3. Cultural Educational Capital, 4. Social Educational Capital and 5. Didactic Educational Capital as discussed in Ziegler & Baker (2013), (Rempel, 2017).

The education capital must however, also be combined with the person within the actiotope and the learning capital must be accessed to be able to produce and develop the required development, in this case, entrepreneurial development.

Since “learning capital is located in the person component of the actiotope and thus encompasses all endogenous resources that can be used to foster a person’s learning progress in a domain” (Ziegler & Baker, 2013. p43) the effect of any construct or system, such as MCF, is limited to the suggestions and environment created to make it easier for an individual to develop and use the learning capital intrinsic to each person. The impact of the learning capital is dependent on the development and use of each individual.

A successful actiotope includes the various aspects of Learning Capital which encompass all endogenous resources used in a person’s learning process. It is vital to observe the environment of MCF which makes it easier for the entrepreneur to develop and use the learning capital intrinsic to each person as well what the entrepreneurs have used to increase their learning capitals (Rempel, 2017).

The development of excellence is described as “an adaptation during which a functional action repertoire for specific talent domains is built up” (Ziegler & Baker, 2013. p13). This is not an automatic process but requires the interplay of both homeostatic and allostatic regulations, or as educational and capital and learning capital. The modification of the actiotope happens via regulations in an ongoing manner in the direction of excellence (Ziegler, Fidelman, Reutlinger, Vialle & Stoeger, 2010). At some point, however, most people will cease with their learning and seldom fully challenge all the individual development possibilities. It is at such points that intervention from educators could assist. The task of this intervention is to help with the adaptation of the actiotope towards excellence with measures that support regulations (Ziegler & Baker, 2012).

In the context of this study, it is suggested that the term “development of excellence” could be augmented to include “development of entrepreneurial excellence”.

The skill-sets needed to graduate from the various MCF Schools are continually expanded, starting with the basic skills and training needed for the profession being learned, then the learners are also challenged to expand their repertoire to include entrepreneurial thinking.

It is at this point that interventions by educators and management of MCF are made to come with additional entrepreneurial challenges that go beyond the skillsets needed for the specific professions. For those who wish to pursue a future in entrepreneurship, the regulations needed, take place within MCF in various settings.

According to Ziegler & Baker, to be able to identify talent and promote excellence observation should extend over longer periods than traditionally practiced, since getting to excellence individual learning pathways that lead to the attainment of success may be required. The full potential of excellence may only be recognized when the supply of

endogenous and exogenous resources is present over the entire pathway in sufficient amounts. Without these the development of excellence is extremely difficult if not impossible (2013) (Rempel, 2017). To fulfill this need to observe and intervene at appropriate times, those showing entrepreneurial potential have the opportunity to spend additional periods of time, after their official schooling, within the MCF system practicing their learned skills, are given entrepreneurial opportunities and are coached in the process.

Once the individual has reached a sufficient level of competency, to enter his/her own enterprise, this is done with the help of supervisions and coaching.

According to Rempel (2017) on MCF, the organization readily supports beneficiaries to effectively interact with a conducive environment to achieve high levels of success. Research shows that to achieve high success levels the following main factors must come into play:

1. Individuals must be able to act in different ways in order to expand their action repertoire.
2. They must also be able to assess the correctness of an action, that is, whether the desired goal has been attained as a result of executing an action (or sequence of actions).
3. Individuals need to be able to recognize if they can apply certain actions in a specific situation (applicability).
4. The interactions of individuals in their setting must be anticipative, that is, individuals must build up effective action repertoires not only as a response to past events, but also in order to deal with novel challenges (Vladut et al, 2013).
5. Individuals need useful and effective feedback from the environment they are in. This function requires access to ordered sequences of actions and information regarding their correctness. Examples are feedback loops like the TOTE strategy (Test-Operate-Test-Exit; see Miller, Galanter, & Pribram, 1960) or cycles of self-regulated learning (Stoeger, Sontag, & Ziegler, 2014).

MCF has created an environment in which the above is fostered, in which entrepreneurship is lived, more specifically social entrepreneurship and entrepreneurship is viewed as one of the ways to solve problems that arise. This is modeled by not only the founders of MCF, Dr Charles Mulli and Mrs Esther Mulli, but in the management of MFC as well.

6. Conclusions

The Mulli Model of Entrepreneurial Education has successfully assisted over 6400 MCF beneficiaries start enterprises creating almost 18000 places of employment. Although one cannot state that these enterprises are excellent, but one can recognize the economic and social impact of these enterprises and how they alleviate poverty in providing employment. How over 6400 individuals can move from extreme marginalization within the Kenyan society to become business owners and entrepreneurs can be explained systemically.

The actiotope model provides an explanation of how to describe why the Mully Model of Entrepreneurship Education is effective.

7. Limitations

The gathering of the information was based on the documentation of Mully Children's Family. The number of employees of each founded enterprise is based in the information provided by the former MCF beneficiaries.

The Mully Model of Entrepreneurship Education is at the time of the writing of this article, still in oral form and although practiced, not written down and documented, so there is no guarantee that the elements developed by the founder, are being implemented equally throughout the growing organization.

8. Recommendations

1. The complexity of the Mully Children's Family, and the Mully Model of Entrepreneurship Education must be further studied to get a deeper understanding of what factors have the greatest impact. This model could be readily applied within the context of institutions that also have a strong focus on entrepreneurship, however, further study is needed to be able to understand which aspects could be applied in a larger context, where the individuals do not live on compounds with very similar environments.
2. The economic impact of the entrepreneurs and business owners who have graduated from various MCF programs needs to be explored and compared to the investment put into their development.
3. The Mully Model of Entrepreneurship Education needs to be documented for effective analysis.
4. The Mully Model of Entrepreneurship Education could become one effective of an indigenous, Kenyan, African-developed model of not only long-term poverty-alleviation, but indigenous job and wealth creation.

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The Role of well-regulated Hunting Tourism in Namibia – in effective Conservation Management

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Abstract

Namibia's hunting industry is increasingly threatened by animal rightists and opponent groups whose adversarial mindset is mostly based on emotion orientated information. The fatal consequences if closing hunting tourism in a country like Namibia are expounded in this study by critically investigating the input of well-regulated hunting tourism towards conservation in Namibia. Different factors have to be taken into consideration, regarding the country's attributes that differ significantly from other countries and their methods to achieve successful conservation management strategies. By conducting an in-depth interview with Mr. Volker Grellmann and by obtaining secondary data from local authorities and organizations, the current research investigates how well-regulated hunting tourism in Namibia is an important part of biodiversity conservation. The results outline that hunting tourism is crucial for the value of wildlife and yields for wildlife to have a greater benefit than livestock and crop farming in Namibia. Likewise, the country takes care of their valuable natural recourse. As a result, natural habitats are induced, and subsequently a steeply growing number of wildlife was recorded over the last 50 years in Namibia. Among others hunting tourism favors the development of rural areas and yields incentives to fight poaching and the illegal trade of wild animal products.

1 Introduction

1.1 Problem statement and motivation of thesis

Hunting is a critical subject in today's society. Novelli, Barnes and Humavindu, (2006) explained that the demand for eco-tourism is increasing, while hunting is not seen as an ethical form of tourism (p.62). Middleton, Stuart-Hill, Hamunyela and Lindeque (2017) reported that a lot of pressure from animal rightists, media influences and poorly regulated hunting activities contribute to its negative reputation. People tend to believe what they hear from various social groups, which is referred to the involvement of "unchecked emotions" (p. 62). Many lodges and guest farms in Namibia offer services for both consumptive and non-consumptive tourism. It is argued that hunting service providers in Namibia are confronted with strong criticism regarding the ethics of their offered hunting products (McNamara, Descubes and Claasen (2016) p. 1-2). However, NACSO (2015) argue that hunting tourism is the best income for conservation in Namibia (p. 66). Naidoo et al. (2016) found that revenues generated through hunting tourism help conservancies in Namibia to realize profits twice as fast than through non-consumptive tourism returns (p.628-638). As highlighted by Brown (2017), the effects of hunting tourism on Namibia's conservation success should be considered first before any actions to restrict or end hunting tourism are supported. Restrictions of hunting will result in a drop of wildlife value (p. 56). According to Uys (2017) a hunting ban causes many farmers to go back to domestic livestock farming and leaving no habitat for wildlife (p. 34-35). It is further noted by Middleton et al. (2017) that poaching would increase as soon as hunting tourism is gone (p. 62). The question "how can hunting tourism be a method of conservation in Namibia?" will be explored in this research paper.

1.2 Overall aim

To achieve conservation success in Namibia, conservation planning and implementation must be adjusted to the country's individual attributes. The goal of this paper is to explore how hunting tourism in Namibia contributes to wildlife prosperity.

1.3 Objectives

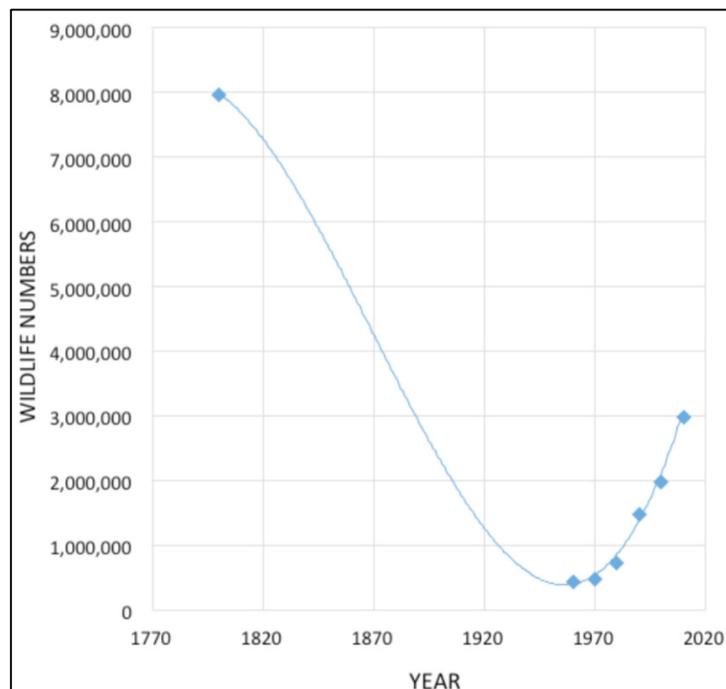
The following measurements are taken to answer the above-mentioned research question. Fundamentals of wildlife management in sub-Saharan Africa are reviewed by comparing wildlife farming to cattle ranching. Moreover, wildlife based tourism and hunting tourism is approached in detail by critically evaluating economic and social impacts of this sector. A closer look is also taken at wildlife management and its relation to sustainability. General principles of hunting tourism outcomes and practices in Namibia are examined in detail, which represent the major part of this research.

2 Literature Review

2.1 “One of the greatest recent agricultural transformations”

In accordance with Lindsey, Roulet and Romach (2007) hunting activities in Namibia were not regulated in the years before 1960 and led to a significant decline in wildlife numbers (p.455). As reported by Lindsey et al. (2007), the year 1960 was the turning point of wildlife value in sub-Saharan Africa, when the Government transferred the right of ownership of wildlife to private farmers. Farming with domestic stock became a subsidiary matter and the economic utilization of game increased rapidly (p.456). Bartels et al. (2016) value the transformation from no wildlife to wildlife as alternative income as “one of the greatest recent agricultural transformations”. Furthermore, meat production, hunting, tourism and life animal sale are listed as sound utilization practices for wildlife management (p.85-86). Child and Suich (2012) disclosed that next to meat production, the most profitable use of wildlife is hunting tourism. Farmers increasingly introduced hunting tourism as an additional source of income. A high profitability of this sector resulted in a rapid increase of wildlife numbers on farms (p. 115-116). According to Lindsey et al. (2007), the growth rate of wildlife numbers in Namibia was 80 % within 20 years (p. 463). As it is shown in Figure 1, wildlife numbers in Namibia experienced a growth from half a million heads of wildlife in 1960 to three million heads of wildlife in 2015.

Figure 7: The development of wildlife numbers in Namibia



Source: Brown, 2017, p. 56.

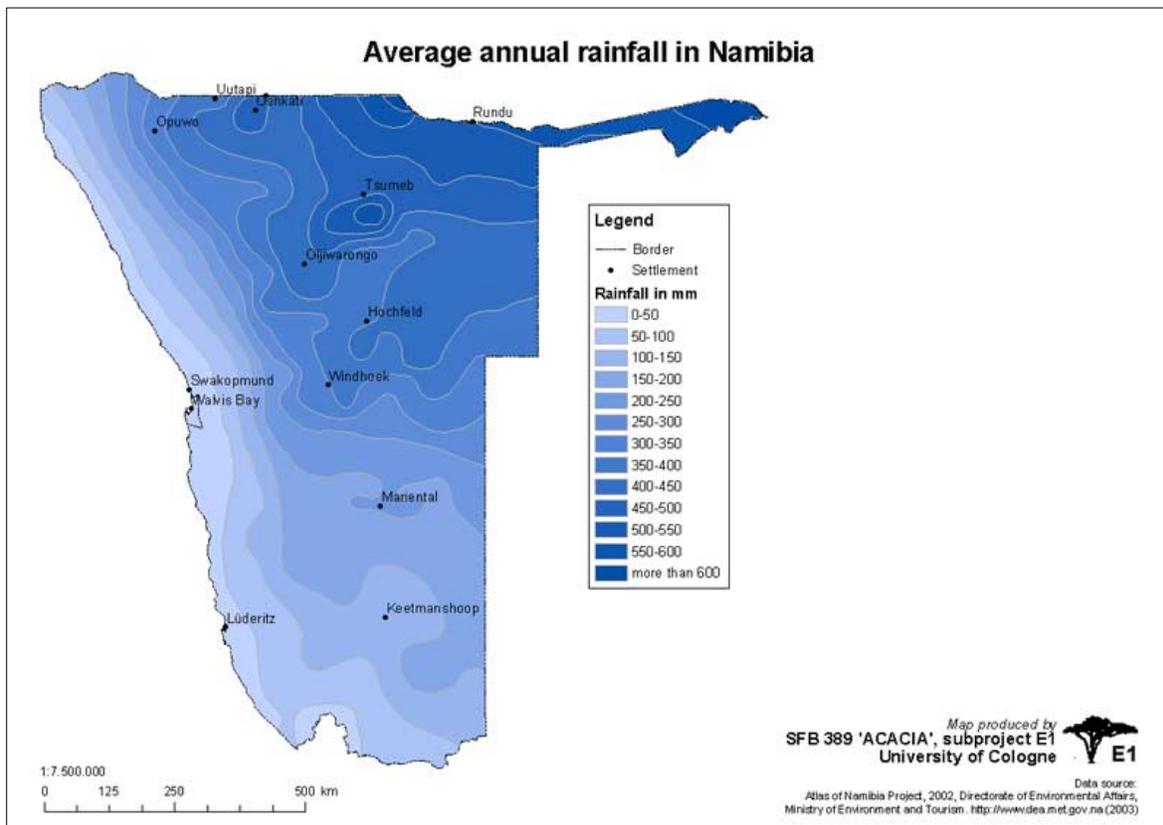
Bartels et al. (2006) explained that in 2010 revenues generated through game farming in South Africa accounted for 9.8 % of the GDP (p. 85). Barnes et al. (2009) further stated that in 2004 wildlife utilization in Namibia represented

2.1% of the gross national product, with 81% generated by tourism. In the years of 1970 until 2000 wildlife numbers presented a growth of 100% on commercial farmland. A 45% decline was monitored in the number of cattle, sheep and goat farming. The input of wildlife to the economy in 2004 was estimated to be three times as high in the following thirty years and simultaneously reaching its peak. It is necessary that wildlife-viewing and hunting based on tourism are maintained for sustaining and growing wildlife (p. 23-24).

2.2 Wildlife farming vs cattle ranching in Namibia

Bartels et al. (2006) analyzed that the advantage of wildlife compared to cattle farming is the versatility of production methods (meat production, live animal sale, eco-tourism and hunting tourism) which can achieve higher revenue in dry regions than cattle production alone. Only a few specific species of cattle are suitable for meat production whilst around 45 species of game can be utilized (p. 87-88). Barnes and De Jager (1996) observe that the majority of private farms in Namibia are situated in arid and semi-arid areas with little rainfall. After 1960 a notable change from domestic livestock to wildlife production was recognized (p.2). This occurrence can be referred to Brown's theory (2009) which explained Namibia's sensitivity to the climate change. Agriculture and livestock generate low revenues per ha compared to trophy hunting. Besides, wild animals are more resistant to droughts than cattle considering that Namibia is one of the driest countries in Africa (p. 4). (Figure 2 shows how rainfall increases from south to north from less than 50mm to more than 600mm per year.)

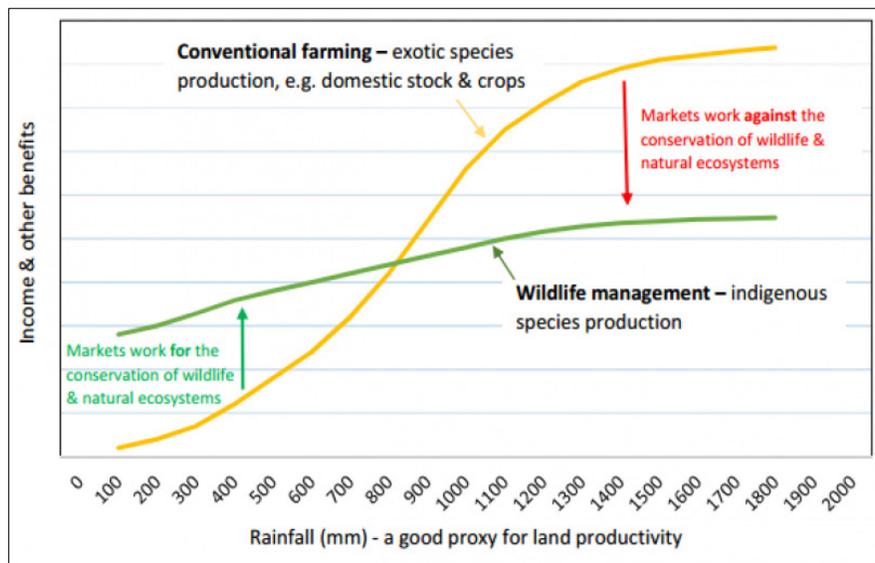
Figure 8: Average Annual Rainfall Namibia



Source: The University of Cologne at Acacia Project E1, 2004.

As it is explained by Brown (2009) livestock farming in Namibia is marginal, since it is “currently operating under rainfall conditions” and further rain shortages will result in unsustainable operations (p.21).

Figure 9: Income generated from wildlife - and livestock farming, varying with rainfall



Source: Brown, 2017, para. 7.

2.3 Wildlife based tourism

Novelli et al. (2006) described that the western populations increasingly seek the opportunity for a clean conscience when it comes to the loss of the natural habitat in their own country (p.64). It is claimed by Novelli et al. (2006) that the expansion of wildlife-based tourism in the last years can be attributed to the growing tourists' requirement of being in the closest possible communion with nature (p.64). Reynolds and Braithwaite (2001) explained that in order to manage wildlife successfully, the focus point should not solely be on the animals and their characteristics itself, but on humankind and its approach towards wildlife (p. 31). As it is further revealed by Reynolds and Braithwaite (2001), from an economic and conservative perspective, both tourism activities, wildlife-viewing and hunting are the most important utilization methods (p.31)

2.4 Consumptive tourism defined

Novelli et al. (2006) claimed that consumptive tourism, if well-regulated, can contribute to environmental sustainability in the same manner as ecotourism (p.64). In addition, Lindsey et al. (2007) noted that hunting tourism is less sensitive than eco-tourism towards political instability. In Zimbabwe a decline of 75% in tourist arrivals occurred

when the new land reform was introduced. The hunting tourism sector only faced a decline of 12.2% (p. 464). Barnes (2001) highlighted that consumptive tourism in form of hunting is the only utilization method that can compete with livestock farming in terms of economic efficiency in semi-arid areas. This makes hunting tourism to the most important factor to prevent habitat loss of wildlife due to livestock farming and maintain wildlife value in regions like the Kalahari (p. 150-151).

In this paper hunting tourism is referred to trophy hunting which is described by Lindsey et al. (2007) as "hunting by paying tourists and typically with the objective of selecting individuals with exceptional physical attributes (large horns, tusks, body size or skull length) and usually in the company of a professional hunting guide" (p. 456). As stated in Namibian nature conservation ordinance of 1975 a trophy hunter is defined as "the holder of a permit . . . who hunts the game mentioned on such permit for the sake of trophies" (as cited by Niekerk and Böttger, 1990, p. 44).

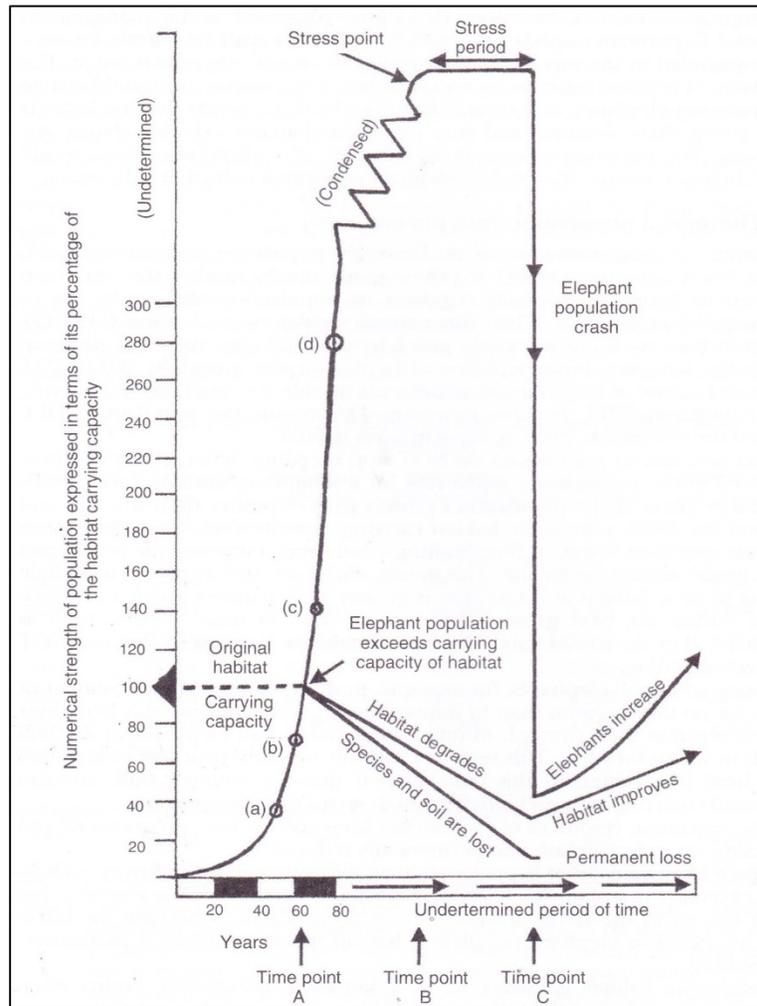
2.5 Hunting tourism under debate

Different interests in wildlife tourism as listed by Reynolds and Braithewaite (2001) "the values of conservation, animal welfare, visitor satisfaction and economic profitability" interfere with each other (p. 32). Novelli et al. (2006) pointed out, that the most rapidly increasing and widely accepted form of wildlife-based tourism is eco-tourism. People set a high value on sustainability and conservation while interpreting a non-consumptive use of wildlife as the most efficient form to fulfill their need (p.62). The greater part of visitors look at wildlife through the tourists' eye, whereby animals are solely subject to holiday purposes. Many indigenous populations in Southern Africa face wildlife on a daily basis when wild animals compete with their livestock or serve as only food source (p. 62-63). Lindsey et al. (2007) argued that the conflict of hunting tourism between animal rightists and "pragmatic conservationists [which include] hunters" is partly attributed to a lack of professional approach. Most published articles are based on feelings rather than facts and statistics (p. 457).

2.6 Sustainable wildlife management

Thomson (2006) determines two different categories of a species population condition. A safe animal population is identified as healthy and should be used "wisely and sustainable". An unsafe population is too low in species numbers and is not able to reproduce quick enough in order to survive unless it is protected from declining. Unsafe populations should be preserved until they have reached the status of being safe. New safe populations must be immediately managed as such (p. 22-24). Thomson (2006) further explained that if a species population is excessively overpopulated, meaning that the habitat cannot sustain the number of animals living in it, the carrying capacity is over 100% and is characterized as unsustainable. This phenomenon is attributed to the increase of habitat loss of wildlife due to increasing human populations (p.38-44).

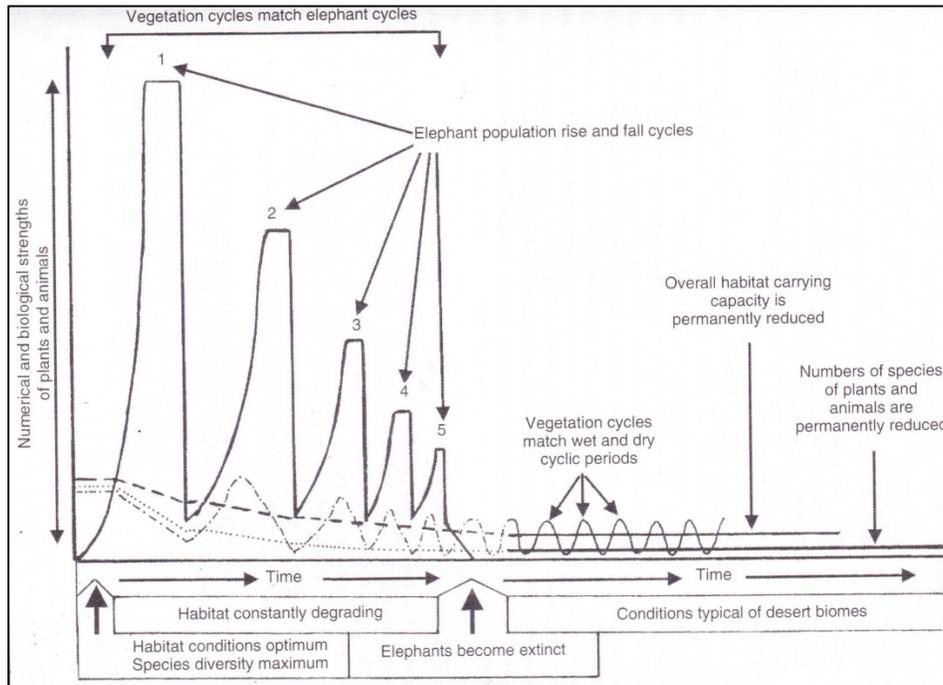
Figure 10: The impacts if an animal population exceeds the habitat carrying capacity



Source: Thomson, 2006, p. 44.

As described by Thomson (2006), once the population crashes, people blame it on the occurring drought. Animal populations recover again but only as long as the habitat can regenerate. If dependent plant species are lost, the animal species is lost as well. Many people suggest leaving wild animal populations alone without human management interference. The result is shown in Figure 5 as a “rise-and-fall” of an animal population in a specific habitat. Once the population has crashed, it will recover again for several times, but each time the optimum carrying capacity is overrun again by a rise of the population. The habitat is carried off further without having fully recovered before. The result is a permanent loss of several plant and animal species (p. 46-49).

Figure 11: How a prolonged exceeding carrying capacity of an animal population results in an overall species loss



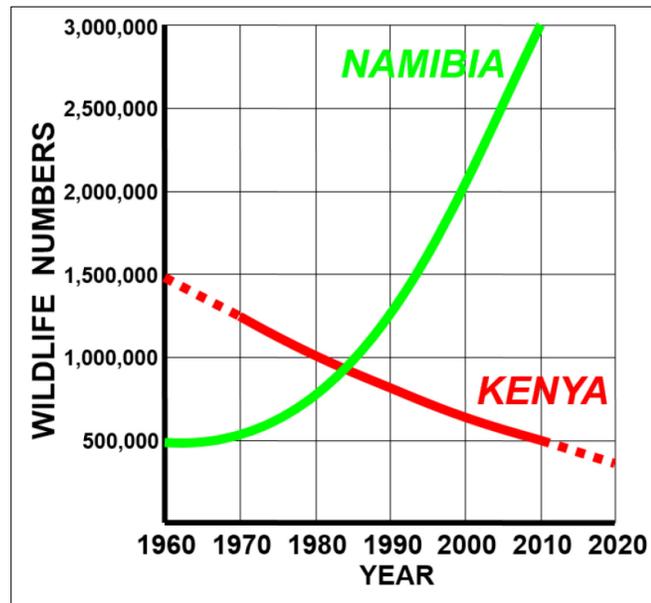
Source: Thomson, 2006, p. 49.

2.7 Hunting tourism in Namibia

2.7.1 An increase of wildlife numbers

Child and Suich (2012) note that before the change of ownership of wildlife starting in the year 1960, wildlife was owned by the government and farmers of private land were unable to use game economically. In fact, wildlife was competing with livestock for the same food source (p. 116). According to Child and Suich (2012), populations of the white rhinoceros and species populations with the natural habitat outside of Namibia have been well-established on private land today to enhance tourism income (p. 114). Figure 6 visualizes how wildlife numbers in Kenya show a constant decline when hunting was banned in 1977 compared to thriving numbers in Namibia, showing a sharp increase with the establishment of the hunting tourism industry. Wildlife numbers experienced a growth from 500,000 to 3 million heads of wild animals within 50 years.

Figure 12: A comparison of Namibia and Kenya in terms of wildlife numbers



Source: Brown, 2017, para. 8.

The Namibia Professional Hunting Association NAPHA (2016) acknowledged that Namibia is the paragon for prosperous conservation management while habitat protection is addressed strongly. Wildlife has become an alternative form of land utilization after 1960 with hunting tourism to be the most profitable method. Accordingly, an increasing number of farmers created new habitats for wildlife by selling their livestock and likewise they protect their new source of income. As a result, hunters ensure habitat for wildlife in Namibia. With an ever-growing human population, expanding into the natural environment, human-wildlife conflicts increase, and it is solely wildlife's "financial value" that ensures its survival. As NAPHA further outlines, Namibia's conservation success is the example, that hunting tourism ensures natural habitats without causing any bionomic damage. It is highlighted that hunting tourism on private farmland in Namibia generates 350 million Namibian Dollars per year and creates more than 3500 jobs (p. 3-5).

2.7.2 Community based Natural Recourse management

Barnes et al. (2009) argue that 88% of wildlife numbers is stocked on private farms (p.23). As reported by the Namibian Association of CBNRM Support Organizations NACSO (2015), the Community based Natural Resource Management CBNRM was initially introduced before 1990 to reintroduce the use of wildlife for people in rural areas. It was based on the same idea as the transformation of wildlife ownership to private landowners in 1960. NACSO (2015) elaborated that wildlife was a threat and still is for people farming with livestock.

The CBNRM program enhances the sustainable use of natural resources within communities. Land that is used for CBNRM practices accounts for 20% of the Namibia's surface area with 82 communal conservancies that are registered and 5116 jobs that were created. Moreover, elephant populations tripled from 1995 until 2015 due to

CBNRM. It is further argued that community conservation favors free ranging animal populations since communal conservancies relate to state protected areas and range across national borders. Besides, CBNRM fosters habitat protection, a flourishing wildlife biodiversity and enhances the development of rural areas which benefits the local population (p. 6-10).

NACSO (2015) reported that the mission of CBNRM is to restore the environment for wildlife and to ensure healthy wildlife populations: "using the broadest range of indigenous resources possible, in order to enhance their value and ensure their protection, as well as the protection of large areas of natural habitat". Therefore, quotas of game that can be utilized are set in agreement with the Ministry of Environment and Tourism MET and according to annual game counts. Management practices are constantly adapted to carefully monitored game numbers. Overall wildlife numbers in communal conservancies have recovered greatly and a decline in Human-wildlife conflicts was perceived (p. 29-33).

In accordance with NACSO (2015), hunting tourism provides a great source of income for communal conservancies and finances anti-poaching efforts as well as sustainable management practices. Partnerships with private tourism and hunting outfitters have been created. The long-term observations have shown that consumptive tourism generates higher returns than non-consumptive tourism in communal conservancies, with 60% of the total income and its low off-take rate does not influence animal populations. It is highlighted, that the majority of conservancies relies on income from hunting tourism, to fund their conservancy. Wildlife is needed as food supply and therefore gains additional value and support. Hunting tourism favors food supply, since the meat is used to feed the communities and only the trophy is taken by the hunter (p. 33-66).

Overall, as stated by NACSO (2015), "conservation hunting is ...positive land use that can safeguard habitat against destructive uses while generating significant income for communities living with wildlife" (p. 72).

2.7.3 Legislation

Hunting, especially in Namibia is subject to regulations to achieve a sustainable and ethical performance. As Thomson (2006) noted, animal rightists' argument, that the trophy quality diminishes due to the fact that hunting tourists eliminate breeding bulls with the biggest horns (p. 28). As explained by NAPHA (2016) ideally the oldest animals that have fulfilled their role to reproduce with worn horns are targeted (p. 4). In accordance with Thomson (2006), Namibia ensures that the quality of trophies is sustained by recording off-take numbers and horn sizes and likewise to create statistics from that numbers (p. 28). As it is stated in the Nature Conservation Ordinance of 1975, every hunting client needs a permit before a hunt for the sake of trophies may take place in Namibia. The permit states exactly how many animals of which species and where he is allowed to hunt. It is further grounded, that every professional hunter must provide complete annual information about the safaris he has undertaken. Furthermore, a detailed information of each hunting client and the number of species hunted must be endorsed. If a hunting outfitter offends against the regulation, his registration as such can be withdrawn (p. 55-56). According to the Attorney-

General of the Republic of Namibia (2017), Namibia sets the highest value on well-managed and sustained hunting practices to ensure a healthy biodiversity for future generations. The article 95 (1) of the Namibian constitution enshrines the sustainable use of wildlife in Namibia:

The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future (p.2).

In accordance with the Attorney-General of the Republic of Namibia (2017), hunting tourism is an advanced tool for conservation management in Namibia (p. 2).

2.7.4 Code of hunting conduct

As Bartels et al. (2016) described "legislation only defines what is legally acceptable, but different hunters have different views on what is personally acceptable within the legislation" (p. 675). Coomber (n.d.) explained that ethical behavior is defined by the actions that people take, when no regulations exist. He shortly described ethics as "unwritten laws". As it is stated by NAPHA (2006), Namibia has developed high standards of hunting ethics. These are ensured by NAPHA. NAPHA is "the official representative of the trophy hunting sector in Namibia" (p. 26). As it is designated by the Attorney-General of the Republic of Namibia (2017), the new hunting code of conduct for Namibia includes that hunting activities may not provoke downsizing or destroying of natural habitats. Every action of hunting guides, professional hunters and anyone who involves in the hunting tourism sector should be sustainable. Hunting must target the protection or improvement of natural habitats and biodiversity. Moreover, solely animals that are past their reproduction state should be hunted for the sake of trophies. Subsequently, a trophy measuring system, the Namibian Quality Control NQC was introduced, to verify the quality of the trophy (p. 2-4). As explained by Niekerk and Böttger (1990), this system helps to establish valuable statistics of trophy quality tendencies to constantly align management practices. Namibia has statistics from 40 years back of all animal species which occur in the country. Moreover, the NQC prevents hunting of undersized trophies by having set up a minimum measurement requirement of the horns of each species (p. 105). The Attorney-General of the Republic of Namibia (2017) further underlines that the trophy alone must not be the reason to hunt. The most important aspect of a hunt is the overall experience including all its side aspects of good hospitality, the expertise and friendliness of the professional hunter and especially the close relationship to nature. The trophy at the end should be seen as a bonus and later as a remembrance of the overall hunting experience. Moreover, any hunt must take place under a "Fair Chase", which means the animal to be hunted must have a chance to escape the hunter as it would do under natural conditions. The area in which the animal is located must be large enough for it to breed, to feed itself and to escape. Every hunting action should amplify sustainability, the preservation of populations and hinder biodiversity loss. Furthermore, hunting practices and methods should take place under decent conditions. Local communities should be considered when making use of resources. Knowledge regarding sustainable and ethical hunting practices and their contribution to conservation should be passed on to others. (p. 4-9).

3 Research Methods

3.1 Overview

The question of this research is, how hunting tourism can be a method of conservation in Namibia. Namibian sources have been consulted, MET and NAPHA to get additional information through statistics regarding the development of hunting tourism and conservation in Namibia. Primary data in form of an in-depth interview with the founder and long-term president of NAPHA, Volker Grellmann was conducted, to gain an analytic overview of how hunting tourism is practiced in Namibia. Mr. Volker Grellmann, was chosen because of his long-term experience and involvement in the development of the hunting tourism industry in Namibia. His exceptional expertise of the thesis' topic was considered sufficient to gain all essential data to answer the research question.

3.2 Interview Guide Design

The Interview consisted of 20 questions to obtain a detailed understanding of hunting tourism in Namibia. The Interviewee was asked about how he experienced the hunting tourism industry in Namibia from 1960 until today. He is further questioned about the development of wildlife numbers in contrast to the simultaneously progressing hunting tourism industry. In addition, the candidate is interviewed about the shift of wildlife value with an increasing tolerance towards wildlife in Namibia. The interviewee was also requested to elaborate on hunters' attributes as well as hunting ethics. Likewise, the effects of banning hunting tourism are enquired while comparing Namibia to Kenya. Furthermore, several questions are asked about Namibia's conservation success, in terms of wildlife numbers, anti-poaching efforts, ethical standards and communal conservancies.

4 Research finding

4.1 First steps to conservation

The first question refers to the candidates' experience how hunting tourism originally started in Namibia. The interviewee pointed out that hunting tourism did not exist in Namibia at times when he started his carrier. Grellmann amongst others, including Mr. Basie Martens, who is considered to be the first professional hunter in Namibia, effectively started hunting tourism in Namibia. The candidate pointed out that classifications like the term 'professional hunter' or 'hunting guide' were not known. Likewise, the term 'trophy hunting', which was changed to conservation hunting in 2017, did not exist. Grellmann explained that these terms only developed after the foundation of NAPHA in 1974, when all necessary regulations started to develop.

The interviewee explained that hunting tourism as such was largely unknown in Namibia and outlined the difficulty to receive a hunting permit. It was at the discretion of the administrator of Namibia whether a permit was issued, and the process involved the application and reasoning why people should be hunting in Namibia. Furthermore, hunting tourism was restricted to the month June until July or May until August. When the notable slow output in

trophy hunting was recognized, overseas hunting tourists were allowed to hunt through the year and only later a closed season for December and January was introduced, when considering the peak breeding season of most animal species. Grellmann noted that the government decision in 1968 to give the right of ownership to landowners only came to fruition with the ordinance of 1975. He explained that if farmers have the rights over certain species, they will look after their animals. Once landowners take possession of something, "their cattle are their own, the sheep are their own, now some of the game species were their own", the government hoped that people would look after their animals. Although the desired phenomenon occurred, it was not always a full success story. Grellmann explained that the Germans in Namibia always took care of their game and exercised according to the hunting code of ethics which they were used to in their home country. When the South Africans suddenly had the right of ownership of game, "they would have shot the last Kudu on their farm to make biltong". Consequently, the government almost revoked this legislative change. However, with the ordinance of 1975 every transaction involving income generated from naturally resources was restricted to a written permission. It is required to obtain a permit for "shoot and sell" purposes and especially the 'biltong hunt' had to be controlled.

4.2 The shift of wildlife value

The second question directs to the shift of the value of wildlife in relation to the transformation of ownership of game to landowners in 1960 (Lindsey et al., 2007, p.456). The interviewee refers to start-up difficulties when building up the hunting tourism sector in Namibia. He explained that nature conservation did not want to sell game to overseas people since only little animals were left in Namibia. Grellmann outlined that this situation cannot be compared to the Namibia we see today with ten times more game than the country ever had. The Interviewee firmly believes that if people get something out of wildlife, they will put something in. He acknowledged that this shift has been taken place in Namibia from 1960 until today. People made more place available for wild animals and the place they made available for wildlife was subtracted from cattle, goat or sheep farming. Grellmann believes that today no farmer would remove game to put back goats because a lot more income is generated from wildlife. The following paragraph relates to the statement of Brown (2017) that wildlife numbers increased from half a million in 1960 to three million heads of wildlife today (p.56). The candidate repeated that Namibia has more wildlife since it became the property of ground owners and ground owners can make a living out of it. Furthermore, wildlife is more efficient than livestock farming, and people have learned to know that there is money to be made in wildlife, which is not only referred to the animal and the meat but from everything going around it, especially hunting tourism.

4.3 Communal conservancies

When asked about the change of attitude towards wildlife among the indigenous people at the time when the famous conservancy program was introduced, the candidate valued the efforts of MET and WWF. He explained the intention of WWF to assist local population groups in handling their wildlife. They were confident with the idea to simply transplant the policy of wildlife ownership to local population groups living in northern rural parts of Namibia. Grellmann and his colleagues were skeptical to base this project on the same principles as it was done on private

farms before. He explained that the people in the northern parts of the country were poor and to grow conservation ideas on an empty stomach is very difficult, "if there is a good meal walking by your hut". Subsequently, WWF managed to get funds followed by a five-year project. According to Grellmann, it was a very artificial process which developed into a full-blown program today. He further noted that a lot of the people yield success in their conservancies. However, Grellmann explained that there are not enough takers for their products, meaning tourism and trophy hunting.

4.4 The legalization of rhino horn and elephant tusks

Question number three discusses the current debate to legalize the trade of rhino horn and elephant tusks due to the increasing demand of Asian countries. The Candidate disagrees with people's argument that selling rhino horn and elephant tusks legally would result in an uncontrolled trade. He argued that rhino horn consists of keratin, the same substance as finger nails, which is normally worth nothing. He highlights that the first settlers who came to Namibia shot a number of rhinos for its skin and meat purposes when they were tracking through the country. However, they never took the horn along. Grellmann noted that rhino horn has only received its medicine value when Africa contacted the Asian and eastern countries. He further explained that burning down rhino horn and elephant tusks to eliminate it will not decrease poaching. It would in fact make less difference to destroy it, if Africa were the richest countries in the world. Notwithstanding that most sub-Saharan countries like Namibia must finance rhino protection and anti-poaching for elephants. Moreover, Grellmann believes that the threat of poaching never stops due to the existence of extremely poor people who risk their lives in poaching animals to make an existence out of it. He further addressed that South Africa's largest rhino farm would generate 2.5 million Rand per year if farming with rhinos would be legalized. Grellmann argued that the horn of a rhino can be cut off without killing the animal and regrows to its original size within three years. One rhino horn realizes 5 times more profit than cattle production per year. In addition, the horn can be cut off again after 3 years, although a rhino with a chopped off horn has lost its authenticity. Still, the interviewee observed that the demand for rhino horn as a medicine will even increase if trading is legalized as it is a traditional medicine. It is impossible to prevent people who truly believe into rhino horn as cure for all kinds of diseases from using it. The candidate underlines that the demand is not only driven by China, Korea and Vietnam; "the demand is there, and it cannot be taken away from them". Grellmann suggests that a given demand should be produced without poachers having to kill the animal.

4.5 Conventional farming

The next question refers to the theory that wildlife farming is more efficient than livestock farming. The respondent gave a visual explanation of a ten-thousand-hectare piece of land in Namibia comparing livestock to game in terms of the species diet preferences. Cattle or any livestock eat grass. Besides, wildlife eats the shortest grass from little forbs on the ground up to five meters high vegetation from the big trees and everything in between. Subsequently, the off-take in kg of meat can be much more compared to cattle since more meat can be produced from the variety of wild animals that occur in a specific habitat.

4.6 Attributes of hunting clients

The following question discusses general benefits of hunting tourism in Namibia. As the candidate specifies, clients shoot an average of four animals and only the trophy (horns and skin) is taken along. The trophy has no value to the farmer and is often thrown away when meat hunting is carried out. For the privilege to shoot an animal the client pays ten to fifteen times more than the meat is worth. Besides, the meat stays in the country and farmers feed their workers, sell or donate it to poor underprivileged people who have no access to food. Next to the trophy value and the meat value, the daily fees payed by the client are another benefit.

The next question examines the behavioral change of hunting clients who visit Namibia. When discussing the quality of hunters, Namibia started off with the German speaking countries Germany, Switzerland and Austria. In agreement with the interviewee they all have a hunting culture. Most of them are hunters in their own country and they are very disciplined and fair. They do not want to sit on a deer-stand when going on a hunting Safari in Namibia since that is what they mostly do at home. Furthermore, they appreciate the different cultures and they want to have an all-round experience. Grellmann acknowledged that these attributes are also offered in Namibia. Southern countries like Italy and Spain have a totally different hunting culture, they simply want to shoot. Besides, the American hunter comes for one or two species which he might has hunted in other countries before. However, he heard that Kudus in Namibia have a better trophy quality and he decides to visit Namibia for one Kudu. The interviewee mentioned a short story during the interview which helps to visualize the important attributes of hunting tourism that include a low off-take rate and a high financial contribution. Grellmanns' client from America wanted to have a Kudu trophy over fifty-five inches. Grellmann and his hunter looked at hundreds of Kudus, but his client was very selective. It was not only the horn length; moreover, the animal had to be an old one. Since they did not manage to get his desired trophy on the clients first trip he visited Namibia again in the same year. They only hunted the desired Kudu on the second trip, on the second last day. It was a very old animal and its horn length almost reached 60 inches.

4.7 Hunting tourism to prevent poaching and habitat loss

One of the most important questions for this research concerns the impact of a hunting ban on wildlife conservation in Namibia. As reported by Grellmann, the first hunting ban that no one considered possible was in Kenya in 1977. Kenya was in his opinion a hunting country like Namibia with a flourishing biodiversity including lions, buffalos and the biggest elephants in Africa. As stated by Grellmann, Namibia was a poor in terms of wildlife when comparing it to Kenya at that time. The hunting ban in Kenya came over night and at least 20 taxidermy companies went out of business. Grellmann further explained that Kenya was the number one hunting country since the beginning of the century and that it was a political decision by Kenya's president Jomo Kenyatta. He requested the ban of hunting in Kenya and no one considered his demand. This was also the start of animal rightists when the international community gave Millions of dollars to him as soon as he closed hunting. The hunting ban in Kenya happened on the highest political level. Furthermore, the mother of Kenyatta stood behind the largest illegal ivory trade that has taken place on this planet. In the moment of closing hunting no policeman was left to protect wildlife. For the reason that every professional hunter automatically acts as policeman who does not want his animals to be poached. Grellmann

describes that with the disappearing of hunters a gigantic vacuum emerged. Elephants were shot down to 1/8th of their original population within five to six years. From 24,000 rhinos 600 are left today. Kenya is the example that everything broke down when hunting was banned. Today there are only small pathetic remains of Kenyas' wildlife left. Next to a few national parks, the capital Nairobi has become massive today and some buffalos pass by the fence or a few lions are seen occasionally on the street but are shot right away by the police. In addition to that, the interviewee outlines the next real threat, the explosion of the human population. He described that "in the past, Africa was a wonderful sea where all the animals lived, with a few little islands of people. Today everything is full of people and only a few islands are left with wild animals". Grellmann further highlighted that the incidents of the human-wildlife conflicts increase every year for the reason that wildlife has no space anymore. In comparison to Kenya another indicator for Namibia's conservation success in terms of wildlife numbers is that Namibia still has space for wildlife.

4.8 Conservation hunting in Namibia

The next question is meant to discuss the input of hunting tourism to conservation in Namibia. The Interviewee explained, that conserving does not exclude utilization and that preserving means no use. He took the example of the wild dog which is the first species that is going to die out in Namibia if nothing is done about it. He insisted that this species should be preserved. Moreover, Namibia is the only country in the world that states in its constitution that sustainable utilization is allowed. The candidate argued that if something is unsustainable it should never be applied. He specified that sustainability means to "never touch the capital just take the interest off and always leave the capital there then it will be there forever". Many people misunderstand the word conservation.

4.9 Namibia's conservation success

There has been a change of hunting in Namibia in terms of wildlife numbers. People say hunting has been commercialized and it is a business and too many hunters come to Namibia. Grellmann explained that for many farms it has become a business because wildlife multiplies. Some farms today have from every species 40 % too many. Animals need to be taken away and the most ideal form is to utilize them through trophy hunting but the required number of trophy hunters to control wildlife numbers cannot be hosted on such farms. The interviewee observed that these farms must cull up to 300 heads of some species because they breed so fast. There is no market for life-animal sale since every farm has enough wild animals. Grellmann added that when he started his hunting business one never thought to cull eland because they barely existed in Namibia. Today they are found on every farm. This example highlights how wildlife experienced a growth while hunting tourism was undertaken at the same time. The interviewee stated that without well-regulated hunting the reproduction of wildlife would have never been possible. Statistics regarding trophy size and wildlife numbers in Namibia beginning in the year 1976 onwards show stable results. Grellmann pointed out that the permits, numbers and measurements of all species are still the same. In 2017 statistics of the last 17 years showed stable populations with one exception; the Kudu antelope showed a

little decrease due to rabies. Furthermore, the animal species that really took a dip in the last years was the warthog. However, this is attributed to droughts. Warthogs are the first animals that lose body conditions during droughts.

4.10 Steps to secure hunting tourism in Namibia

Presently, Namibia works on a new legislation and a new code of hunting conduct. Ethical standards of hunting tourism in Namibia are reworked and ensured through Namibia's professional hunting association. In 2009, NAPHA put up a new code of conduct which was revived in 2016. Together with the Namibian government the new code of conduct was written in 2017. It will be an attachment to the legal hunting license and the visiting hunter and the professional hunting guide will have to sign that they have read it before they are allowed to hunt. According to Grellmann, Namibia has always been in the forefront when it comes to ethical hunting. "They have always had a code of hunting conduct and they were always the guiding light anywhere in southern Africa.

If hunting tourism is closed in Namibia a drastic decline in wildlife will occur as it has happened in Kenya. Poaching and habitat loss will occur since not all the land is suitable for ecotourism and the market potential is limited. Farmers will substitute game with livestock and 'policeman' who look after wildlife will be gone to a certain extent. Another significant result that underlines Namibia's conservation success that is based on hunting tourism is the input of NAPHA and hunting outfitters to anti-poaching efforts. Furthermore, Namibia takes steps to ensure conservation by constantly adjusting rules and regulations according to statistical outcomes of population numbers and trophy quality. All hunting activities are tied to the new code of conduct to ensure ethical standards. It is important to mention that Namibia sets high value on ethics which is further emphasized when NAPHA ended the partnership with PHASA as soon as South Africa allowed hunting of canned lions.

5 Conclusion

To answer the research question of how hunting tourism is part of conservation in Namibia the word conservation should be understood first. As Grellmann described conservation means to "never touch the capital just take the interest off". Bartels et al. (2016) describes hunting as the "backbone" of conservation (p.86). The need of an intense relationship between humans and wildlife by the western populations revealed from the time when no wildlife was left in their countries. However, measures undertaken to preserve little species populations in those western countries cannot simply be implemented in countries like Namibia to sustain the countries wildlife heritage. Different factors must be considered. As it is shown in Figure 3, factors to sustain wildlife in Namibia positively interact if rainfall is below 800 mm. This is explained due to the marginal profitability of domestic stock farming when rainfall is relatively low. If rainfall is measured above 800 mm livestock and crop farming seem to generate higher income than wildlife farming. Since Namibia is one of the driest countries in Africa it can be concluded that conventional farming finds higher interest in most western countries due to higher rainfall. These findings correlate with the value of wildlife which according to Grellmann only exists if people can make money out of it. Hunting tourism is next to wildlife-viewing tourism the most important form of wildlife farming in Namibia. Grellmann characterized hunting as "low off-take and high value", which favors the conservation of species populations and financing anti-poaching efforts.

In Namibia wildlife has a high value and is needed and therefore, its numbers are thriving. However, hunting tourism is increasingly under debate. Yet, a no use of wildlife populations results in their extinction. Wildlife populations cannot be regulated by nature anymore or without human interference. Namibia can be described as the leading example of conservation success with hunting tourism to be identified as major contributor. It is of vital importance to highlight that next to the thriving wildlife numbers, Namibia sets a high value on an ethical hunting code of conduct and is continuously monitoring its wildlife numbers to adjust rules and regulations that all practices remain sustainable.

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Product Innovation and Performance of a Kenyan Medium Sized Company

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Abstract

Innovation has been touted to be the central catalyst of entrepreneurship. This view has dominated research in start-ups as well as small and medium enterprises. Therefore, the relationship between innovation and firm performance has been a subject of interest to many researchers and policy makers. Through a longitudinal approach, this study investigated the influence of product innovation on the performance of Haco Tiger Brands, a medium sized fast-moving consumer goods (FMCG) company in Kenya's East Africa market. The study looked at the product innovation activities within the company for a period of 7 years for a total of 35 products across the five major brand categories of the company. Using a secondary data capture form, data on sales revenues for both the company and innovated products for the past 7 years was obtained. Data on the innovated products launch time and type of innovation was also obtained. Using time series and linear regression analysis, the results indicate that the total company sales revenues less innovation grew at a slower rate of 50% as compared to growth when product innovation sales revenues were included in the total company sales revenues accounting for a faster sales growth rate of 76%. The influence of product innovation on performance was statistically significant ($p < 0.05$) accounting for 92.19% variation in performance. These findings provide irrefutable empirical basis that product innovations have significant revenue growth rates, hence the need for managers of medium sized companies to invest in research and development to sustain product innovation and spur growth. The results sit well within theory and other empirical studies with additional contribution to methodology. Based on the study limitations, further areas for research have been suggested.

Key Words: Product Innovation, Performance, Fast Moving Consumer Goods Company, Haco Tiger Brands

Introduction

The relationship between innovation and firm performance has been a subject of interest to many researchers and policy makers. Many studies suggest a close link between innovation and revenue growth (Nelson and Winter, 1982; Aghion and Howitt, 1992; Klette and Griliches, 2000; Klette and Kortum, 2004). However, there are various other scholars who have concluded that successful innovation does not appear to have significant effect on growth rate of sales (Geroskiet al., 1997; Bottazziet al., 2001; Del Monte and Papagni, 2003; Loof and Heshmatt, 2006). Those with this view argue that for there to be a significant contribution to company revenues, introduction of new products or processes must be timed well because some products have a slower market acceptance despite there being a need or gap for them and that the innovations must be rapidly accepted if innovation is to impact on firms' profitability. Despite this varied view, researchers seem to agree that proper implementation of innovation does have a positive impact on firms' performance.

Wheelwright and Clark (1992) cite innovation as the key to the success of any business. They argue that in the ever-changing business environment and with the globalization of markets any company needs to innovate to continue being in business. They argue that the essence of innovation for any company is to gain competitive advantage on the long term which normally results in sustainable company profits. Other scholars (Del Monte and Papagni, 2003) differ with this view arguing that companies can innovate and still not grow their revenues. They highlight factors such as proper timing of product launches or new introductions and acceptance of the new product by the target consumer as the drivers to revenue growth.

An innovation is any new or significantly improved product that a firm first develops or those that a firm adopts from other firms or organizations which result to commercial value (profit). Product innovation therefore means introducing new products or services (Polder et al, 2010). The product must either be new or significantly improved with regards to its features or components. Product innovation can also refer to change in product design that changes how the product is used or how it looks like (its characteristics) (OECD, 2005).

Companies engage in different types of product innovation. In the current market setting, consumers are more knowledgeable and hence demand certain things from producers of goods and services. This means that the new products must be developed according to customer needs (Olson et al. 1995). Products also have life cycles that are short and hence the need for firms to innovate to ensure that their products do not die (Duranton and Puga, 2001) and remain relevant to their customers. The other way that firms innovate is by modifying the existing product (renovate) or introduce new products altogether (Adner and Levinthal, 2001).

Fast Moving Consumer Goods (FMCG) companies are companies that sell products which are consumed frequently. Such products include perishable products such as food, beverages, hair care, skin & body care, and cleaning products and non perishables such as consumer electronics (Brierley, 2002). These products are mostly branded and packaged and are targeted to the mass market. They are available in retail outlets such as hypermarkets, super markets, grocery store and kiosks. Given their nature, the frequency of purchase range from daily, to weekly, to monthly, to annually

and over several years (non perishable goods) (Majumdar, 2004). Typical consumers of FMCG are any persons with a consumption need, who although make up majority of the population, are very price sensitive.

According to Kavitha (2012), Kenya's FMCG market is one of the major drivers of the country's economy. Euromonitor (2014) estimates the FMCG market in East Africa at USD 6.6 billion in value. The players in this sector are both local and international companies although the multinationals dominate. KPMG listed EABL as the top beer company. Coca Cola leads in the soft drinks category, Unilever in personal care and Reckitt Benckiser in Home care (KPMG, 2014). Strong local players include Bidco, which is both in foods and detergents; Inter Consumer Goods whose popular hair care brand Nice and Lovely has now extended into skin care; Haco Tiger Brands the number one pen brand manufacturer and also plays in home care and personal care categories. Since FMCGs are generally similar within categories, retailers have to compete on the basis of price, making competition fierce which impacts on company margins. As a result, companies that are not efficient end up being pushed out of business. At the end, companies are forced to offer value added products by being innovative so as to survive this stiff competition.

Haco Tiger Brands (HTB) East Africa was established in the early 1970's with the name Haco Industries as a single product manufacturer. From its humble beginnings Haco Tiger Brands has since grown into a diversified and strong player in the FMCG sector in East Africa and COMESA markets. Beginning with stationery and shaver products, Haco diversified its operations into personal and home care products in the mid 1990s. Principal to this process were international partners such as Societe Bic France, Pro-line International Inc. USA, Alberto Culver Inc. USA, E.T. Browne Drug Company Inc. USA and Jeyes Plc. UK.

In 2008, HTB entered into a joint venture partnership with Tiger Brands Limited, one of the largest manufacturers of fast moving consumer goods (FMCG) products in South Africa. Tiger Brands is one of the top 40 listed companies in the Johannesburg Stock Exchange (JSE) with a proud record of solid financial performance over several decades. It has a distribution network that now spans more than 22 African countries. Today HTB is one of the region's leading FMCG manufacturers, supplying a wide range of products to the entire Eastern Africa (Uganda, Tanzania, Rwanda, Burundi & Ethiopia) and COMESA markets.

The introduction of Miadi marked the first specially tailored products to be launched from Haco Labs, the company's Research and Development division. The launch also came as the culmination of Haco's 20 year plus involvement in the hair-care market, associated with leading international brands such as MOTIONS and TCB. With the mission of "Adding Value to Life" HTB continues to pursue its vision of being "The Most admired branded FMCG company in Eastern Africa".

Competition within the FMCG sector continues to intensify and the Kenya customer has become more demanding with expectations that keep changing. Product life cycles have also become much shorter as compared to the past. Products are maturing faster than before hence the need to innovate often if firms are keen to continue being profitable. In the backdrop of this reality, innovation has always been part of how HTB conducts business. However it was not until the year 2008 that HTB made innovation its key corporate agenda. A new product development

(NPD) team was formed, a team which comprised of members from manufacturing, R&D, logistics, finance, sales and marketing. This cross functional team was mandated by the organization to oversee all NPD projects to help re-launch existing brands and innovate on new ones. By 2010 HTB's management incorporated innovations as a key thrust of driving growth of the business. This was to be done in 3 ways. The first was entry into new categories to generate new additional revenues, which was to be pursued by innovating on new products or carrying in products from Tiger Brands SA and introducing them into the Kenyan market. The second way was through renovation of the core brands that existed in the Kenyan market but needed significant pack upgrade and formulation change to drive and sustain consumer appeal as a result of changing trends and tastes. Third and lastly was through green field projects that required capital expenditure (CAPEX) to enable local manufacturing.

Haco Tiger Brands has been actively innovating in the past seven years. Some products have been successfully developed and launched; others have been launched and failed while others are still in the innovation pipeline awaiting full development before launch. To date HTB continues to innovate and grow its product portfolio beyond what it has always been known for, the BIC pen. Haco has significant market shares across the hair care, skin care, fabric care, toilet care, baby nutrition and foods. Despite HTB's ability to launch innovative products and existence of an active innovation pipeline, there is need for Haco Tiger Brands to evaluate if these innovation efforts are really yielding profits and leading to business growth.

Based on the previous studies, companies can innovate, and either be profitable or have no impact on revenues. Many research studies in Kenya have focused on innovation strategies and how these strategies help different Kenyan companies perform. Most studies have focused on banking and telecommunication sector. Letangule and Letting (2012) for instance studied the effect of innovation strategies on performance of firms in telecommunication sector in Kenya. The study looked at different types of innovation and how they impact the performance of firms specifically in the telecommunication industries. Others such as Mwenje (2012) looked at product innovation as a competitive strategy in Barclays and Kemoli (2012) studied strategic innovations & performance of commercial banks listed in the NSE. These two studies revealed that a strong positive relationship exists between innovation strategies and organizational performance. Not so much effort and attention has been expended to analyse how product innovation impacts company performance in the FMCG sector where innovation is a constant requirement.

Based on the aforementioned studies, and with this view, it is clear that companies engage in innovative activities with the main purpose of improving their performance by growing revenues. Different companies have adopted innovation in different ways such as implementing innovation strategies to help them compete better. Many of these organizations lack proper measures that can be used to conclude that innovation or innovative activities influence company performance holds. Haco Tiger Brands in particular has launched into the Kenyan market new products with some succeeding while others failing. It is, therefore, important to interrogate whether HTB's innovation efforts actually yielded additional revenues for the company as perceived or the efforts have just been part of the usual business activities. Within this backdrop, what is the influence of product innovation on performance of Haco Tiger

Brands East Africa? It was, therefore, the objective of this study to determine the influence of product innovation on performance at Haco Tiger Brands.

Organizational performance refers to the analysis of a company's performance as compared to its goals and objectives (Dawes, 1999; Harris, 2001). Within corporate organizations, there are three primary outcomes analyzed: financial performance, market performance and shareholder value (Business dictionary). Organization performance is usually reflected in the annual sales and profits generated by the firm. Organizations measure performance in various ways but measuring financial performance is key in determining company profitability. According to Gopalakrishnan (2000) financial measures include increase in profit, return on investment and return of assets.

Organizational performance can also refer to achievement of an enterprise based on a certain criterion (Machuki and Aosa, 2011). These two scholars view organization performance as an indicator of the organization's effectiveness. They also argue that measuring organizational performance can pose a challenge but common measures such as earnings per share and share holder value analysis can be used to measure performance. This paper, however, focused on annual net sales revenue as a key indicator of organizational performance by specifically looking at the revenue generated from innovation in relation to total company revenue.

Theoretical and Empirical Literature

The traditional ways of staying ahead of competition are no longer sustainable forcing organizations all over the world to find new and better ways of doing business (Tidd 2001). Evolving technologies, explosive industrial growth in some sectors and global recession are cited as the main reasons for this change (Wheelwright and Clark, 1992). The Schumpeterian approach of simply producing a given set of goods or employing a given set of inputs and processes is not enough. Companies must ensure that products are adopted and accepted by the key consumer as argued by Rogers (1962) in his diffusion of innovation theory. To be successful over a long period of time, firms must develop the ability to innovate and then to profit from that innovation (Nelson, 1991). This study was based on these theoretical anchorages as a guide to understanding innovation.

To date scholars have not found dominant innovation theories that explain the ability of a company or person to innovate. Most researchers have based their research on Schumpeter's (1991) entrepreneurship theory and Rogers' (1962) diffusion of innovation theory. Both theories form a strong base of research in this area of innovation. How innovations are received and adopted affect the companies' earnings from such innovation activities since acceptance or rejection of new products is determined by adoption by targeted consumers.

The diffusion of innovation theory finds its origin in communication and explains how, over time, an idea or product gains momentum and diffuses into a social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. By people perceiving an idea, behavior or product as new (innovation) they adapt to it. The theory further explains that this adoption is not simultaneous, some people adopt more than others within the same social system. According to this theory, how people adopt these innovation' varies. The

adopter categories include the innovators who are usually the first to develop ideas and are willing to take risks; there are the early adopters who are mainly opinion leaders. This lot is aware of the need to change and are comfortable to adopt to new idea – they don't need convincing. Then there are the early majority who need evidence of the innovation work and are mostly the average person. The late majority are very skeptical and will only adopt to new innovation after it has been tried by the majority. The last category is the laggards who are very traditional and conservative. They don't like to change and are the hardest to convince.

It is important that researchers understand the characteristics of the target population to fully comprehend how that impacts on adoption of any innovation. In measuring the impact of innovation on performance of different companies, various factors must be evaluated within a defined set up. This theory will be a good basis of the research in examining these different variables. Like many theories, this is not without its limitations. Key to note is that this theory works better with adoption of behaviors rather than cessation or prevention of behaviors and doesn't take into account an individual's resources or social support to adopt the new behavior (or innovation).

Innovation is viewed differently by different people and organizations but most scholars generally agree to three schools of thought. The first is the market-based view of innovation which explains that the market conditions provide the context which facilitate or constrain the extent of firm innovation activity (Slater & Narver, 1994; Porter, 1980, 1985). The other school of thought is the resource-based view. In this school of thought, the firm focuses on the firm's own resources to provide a much more stable context in which to develop its innovation activity, and to shape its markets in accordance to its own view (Tidd et al., 2001; Shavinina, 2003; Patel & Pavitt, 2000) and the last school of thought views innovation as a result of luck and good fortune thus serendipity. In this view, firms stumble on certain innovation while busy innovating on others attributing their success to luck or good fortune.

Various models have been adopted to demonstrate the process of innovation. Earlier traditional models of technology push and market pull were popular in the 1960s and 1970s (Trott, 2008). Over time and given the changing technologies, linear representations of innovation failed to capture all the effects in the innovation process such as the external environment. Organizations which are serious about commercialization of their innovation need to therefore adopt better models. This is because introduction of new ideas is not a guarantee of profitability. Del Monte and Papagni (2003); Loof and Heshmatt (2006) argue that other factors within the environment such as timing and slower market acceptance affect how people adopt to these new introductions. It is important to note that different groups of people within the same environment adapt to new things at different times (Rogers, 1962) and this means that market share growth increases with more people adopting the new product or service. This also means that, if people do not adapt to new introductions, then the innovation may fail.

Most organizations use financial performance as a way of measuring the effect of innovative activities (Loof, et al., 2002; Bessler, et al., 2008). Apart from this measure, there are other innovation metrics of measuring the influence of innovative activities on an organization's performance. One way of measuring innovation effectiveness is by looking at the number of new product introductions into the market within a defined period of time, usually annually.

Hittet al. (1996) cite new product announcements as an indicator of innovativeness of a company. There is also a positive relationship between new product announcements and patents (Devinney 1993). Organizations must however be cautious when using this measure as most press releases on new products originate from marketing departments and little or no screening appears to be undertaken. Success or failure of launched products can help an organization measure how effective their innovation is. Not all innovation succeeds. The process of idea screening and feasibility testing filters ideas leaving those viewed as viable for development and launch. Some of these succeed while others fail. Failure and success of a product is part of the innovation process and companies must learn from both if innovation is to matter.

Another way of measuring innovation is by looking at the total number of projects in the innovation pipeline awaiting commercialization. An active pipeline is an indicator of an organization's commitment to looking at ways of adding value to the existing products or providing new offerings into the market (Mankin, 2007). The research and development team can work on product improvements or new products. This can help in faster introduction into market once a need is identified. The final way an organization can gauge its innovativeness is by their ability to commercialize faster commonly referred to as speed to market. Tidd, Pavitt and Bessant (2001) cite speed of innovation as the differentiating factor between innovative companies and those that are not. The first mover advantage plays a critical role in setting an organization apart from its competitors. Organizations that are fast to launch are viewed as the originators whereas those that follow are viewed as imitators. With this in mind, it is clear that measuring innovation effectiveness on a global perspective can be quite elusive. This however does not mean that it is impossible.

As earlier discussed many scholars have attempted to link innovation to firm performance. The relationship between innovation and firm performance has been a subject of interest to many researchers and policy makers. Most studies have reported a positive relationship between innovation and firm performance (Loof, et al., 2002; Bessler, et al., 2008). Performance was measured using sales and export revenues, return of assets and productivity. These were measured in relation to sell of new products by their employees, employee growth and operating profit. Other researchers have found a positive relationship between innovation output and sales growth but no evidence that relates innovation output and employee growth (Klomp and Leeuwen 2001).

Other researchers have looked at the innovation process and channels as a way of realizing better performance (Crepon, et al., 1998; Hall, et al., 1998; Loof, et al., 2002; Kemp, et al., 2003; Loof, idr., 2006; Bessler, et al., 2008). The different stages in the innovation process are able to help an organization better commercialize their products enabling them to realize profits from those products. The sequence flow of process from the decision to innovate to innovation output is cited as what links innovation activities to positive firm performance (Crepon et al. 1998)

OECD reports point out decisive and rapid innovation by organizations as a key contributor to higher productivity and incomes. Such companies also enjoyed better qualified workers, they paid higher salaries and provided better future plans for their employees (OECD Oslo Manual, 2005). This research differs from others that look at market share and profitability as measures of innovativeness to productivity and efficiency.

McAdam and Keogh (2004) in their research found out that firms which are more inclined to innovation enjoy a competitive advantage despite the competitive environments they operate in but other scholars looked at proper timing and product acceptance as a proper way to measure the contribution of innovation to performance (Geroski et al., 1997; Bottazzi et al., 2001; Del Monte and Papagni, 2003; Loof and Heshmatt, 2006).

A lot of research has been done in the area of innovation and firm performance. Positive company performance (Derfuset al., 2008; Ferrier et al., 1999, and Young et al., 1996) has been linked to a firm innovativeness (Roberts and Amit, 2003). Most of these studies have however concentrated in developed or mature markets. This is mostly because in mature markets, individual companies must find ways to manage their business given the competitive business environment. A lot of maturing or developing markets lack satisfactory research on this area.

Most scholars agree that innovation does influence company performance. The key enablers of innovation from the reviewed literature include proper use of the innovation process, decisive and rapid innovations, measuring innovation efforts, an innovative culture and proper timing during introduction of new products. Sales revenue growth is cited as the major result of these innovation activities. This research will look at these influencers in relation to innovation and their influence on firm performance.

Methods

This research used longitudinal study design. The study analyzed the impact of innovation on company performance by empirically examining product innovation activities at Haco Tiger Brands using longitudinal data from a cross section of product brands that have been innovated or renovated over a period of seven years.

Longitudinal study was the best design for the research because it allowed an in-depth analysis of innovation and performance elements at Haco Tiger Brands. Because of its nature, the design allowed for year on year capture of data and analysis, which made it easier for the researchers to observe change in performance implications of product innovation over the specified period of time. Longitudinal studies require enormous amounts of time and are often quite expensive to carry out. However, this was not a disadvantage to this research given that there was secondary data for the study period. Accessing data did not pose a challenge because the data required was documented in Haco Tiger Brands' financial records and sales reports. There was also no cost incurred in accessing this data.

The study made use of secondary data, which were collected from secondary sources by use of secondary data capture form. This form detailed all the product innovations at Haco Tiger Brands and when they were introduced into the market. It also captured revenues generated from these innovations in relation to total company revenue. The review of secondary data spanned seven years from 2010 through to 2016 and was from filed financial and sales reports.

Collection of secondary data using the secondary data capture form was appropriate for the study mainly because it was the most feasible method for this type of study (longitudinal study) that usually covers a period of time. This

method was also time saving because the needed information already existed and was quickly and conveniently accessible. Unlike in the past where long hours were spent analyzing physical books, most of the information needed for this study was found on the Oracle system saving lots of time for collecting data. The researchers lacked control over the quality of data, but Haco Tiger Brands guaranteed the quality of the data shared hence this disadvantage of the method was overcome.

The study used linear regression analysis to identify and spot patterns on trends with regards to innovation and performance at Haco Tiger Brands. Collected data were first checked to ensure completeness and consistency. The data were then analysed using Mini Tab to bring out the trend of innovation revenues and company sales over a period of seven years. Charts and graphs were used to show growth trend of revenue generated from innovation over the past seven years. Analysis of revenue impact on total company sales was also analysed over the same period to establish whether the relationship was statistically significant.

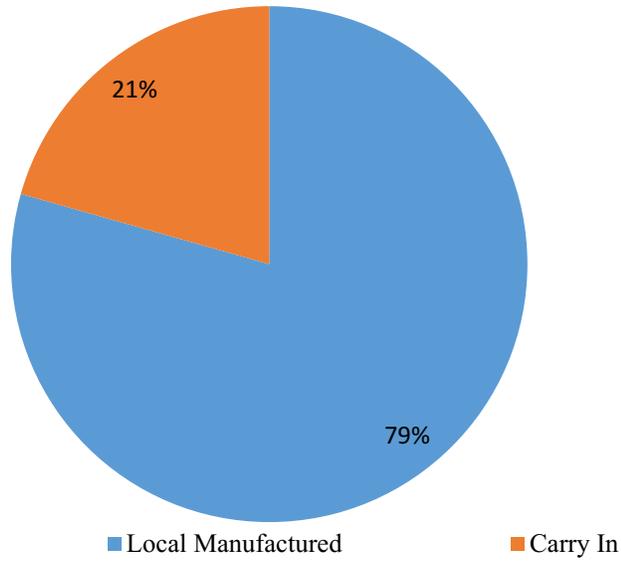
Trend analysis was also used to show past trends which are useful for predicting the future outlook of an organization's performance, identifying unexpected variances that may indicate strategic or operational changes or entity weaknesses worthy of additional exploration and analysis.

Findings

The study started by examining the broad categories within which the several brands fall. It was established that Haco Tiger brands has a broad brand portfolio in stationery, shavers, hair care, skin care, home care and foods. A total of 35 products made up the list of all the innovations carried out by the company for the past seven years. The locally manufactured products accounted for 44% whereas 56% were carry in products from within the Tiger Group companies from 6 countries across Africa or through contract manufacturers. Revenue contribution from locally manufactured products were significantly higher at 79% than that from the carry ins at 21% (Figure 1), an indication that perhaps locally manufactured goods give better margins as compared to those being imported from other Tiger Group companies. Out of the 35 products innovated, the carry in brands were the most (56%) yet the revenue contribution was lower than the locally manufactured products.

Figure 13: Revenue Contributions per Innovation Type

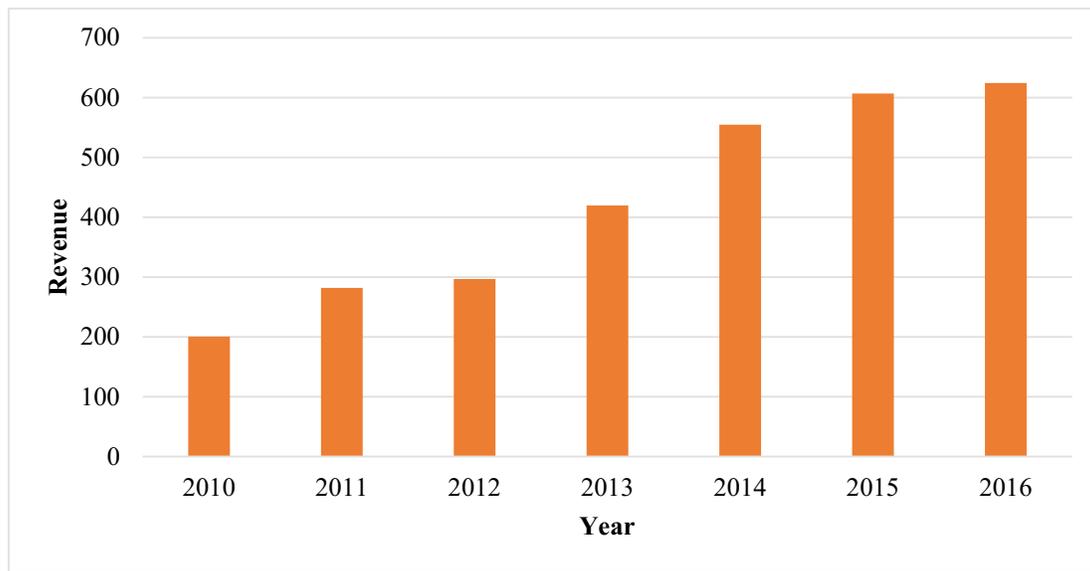
Contribution by Innovation type



Source: Haco Tiger Brands Annual Sales reports

The study also looked at the revenue growth year on year from 2010 to 2016. From the analysed data and as shown in Figure 2, innovation revenues for Haco Tiger Brands doubled for the period between 2010 and 2016. From just under 200 million in 2010, HTB now enjoys revenues of over 0.5 billion from innovation products. There is a clear upward trend and although the growth seemed to have stagnated in financial year 2011/2012, there was a leap in 2013 where innovations sales revenues grew by a significant 4%, the highest annual growth since 2010.

Figure 2: Innovation Sales Trends



Source: Haco Tiger Brands Annual Sales reports

The study's main objective was to establish the effect of product innovation on the total company sales. Table 1 summarizes the revenues generated for the past 7 years. Contribution from innovation products grew from 10% in 2010 to 18% in 2016, an indication that revenue generated from innovation had influenced growth of Haco Tiger Brands.

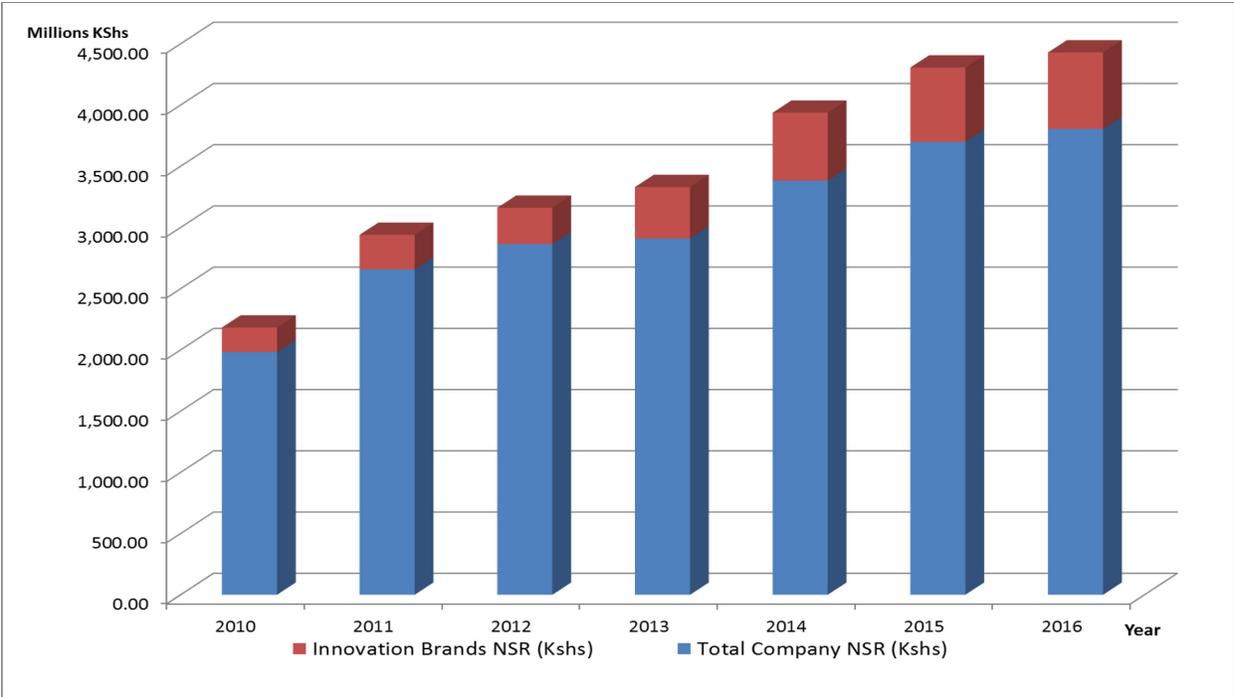
Table 1: Contribution of Product Innovation to Company Sales

Year	Total Company NSR (Kshs)	Innovation Brands NSR (Kshs)	% Contribution
2010	1,981,232,337.30	200,752,665.30	10.0%
2011	2,656,614,988.40	282,095,149.00	11.0%
2012	2,863,940,189.70	296,973,949.30	10.0%
2013	2,909,522,992.80	419,505,791.00	14.0%
2014	3,381,152,252.00	554,776,176.20	16.0%
2015	3,698,135,275.63	606,786,442.72	17.5%
2016	3,803,796,283.50	624,123,198.23	18.0%

Source: Haco Tiger Brands Annual Sales reports

The results in Figure 3 show the growing contribution of revenue streams from product innovations in relation to the total company sales. As compared to 2010, the contribution was lower but moving towards 2016, there was significant revenues coming through from innovation, faster than the company sales growth. Table 2 gives an in depth understanding of the relevance of innovation to total company sales. The total revenue growth without innovation was 50% compared to 76% when product innovation revenues were included. This is an indicator that innovation activities within Haco Tiger Brands have added value in terms of revenue growth for the past seven years. From Figure 3, it seems clear that the company has grown its revenues in general from 1.9 billion in 2010 to 3.8 billion in 2016. Therefore, innovation accelerated this growth and helped the company grow its total sales revenue faster.

Figure 3: Seven years trend contribution of innovations verses company sales



Source: Haco Tiger Brands Annual Sales reports

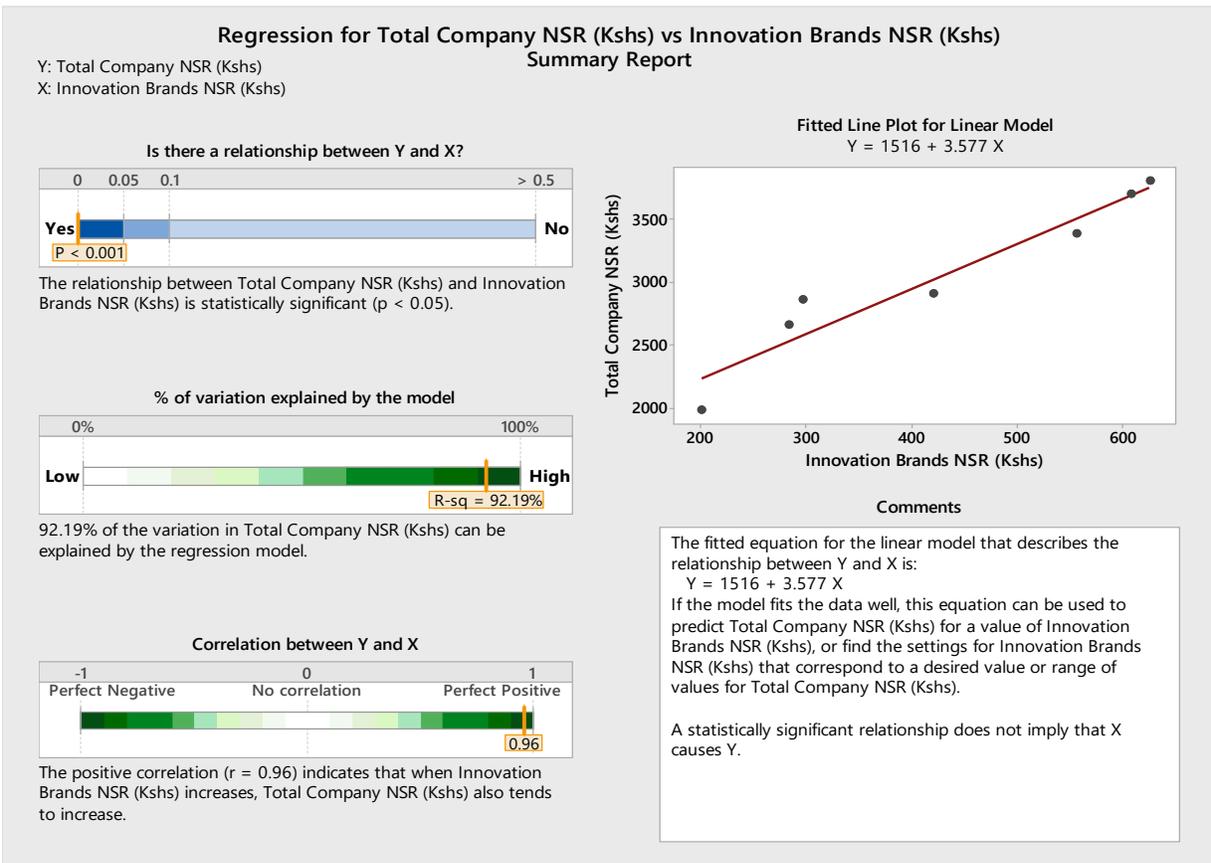
Table 2: Revenue growth 2010 - 2016

Year	Total Company NSR (000,Kshs)	Innovation Brands NSR (000,Kshs)	TT company less innovation (000, Kshs)
2010	1,982.00	201.00	1,781.00
2011	2,657.00	283.00	2,374.00
2012	2,864.00	297.00	2,567.00
2013	2,910.00	420.00	2,490.00
2014	3,382.00	555.00	2,827.00
2015	3,699.06	607.03	3,092.03
2016	3,804.75	624.38	3,180.38
% growth 2010- 2016	54%	76%	50%

Source: Haco Tiger Brands Annual Sales reports

Data was also analyzed using Minitab data analysis software to establish if there was a relationship between innovation brands sales and total company sales. The analysis also set out to determine if product innovations had a statistically significant influence on company performance over the seven-year period that the study covered. Both the relationship and influence were tested at 95% level of significance ($p < 0.05$). Figure 4 presents the summary of the outputs of the analysis.

Figure 4: Regression analysis for total company sales verses innovation brands



Source: Haco Tiger Brands Annual Sales reports

The findings in Figure 4 show a perfect strong positive correlation and statistically significant correlation between total company net sales revenue (NSR) and innovation brands sales ($r=0.96$, $p<0.05$). This positive correlation indicates that when innovation sales revenues increase, the total company sales revenues also tend to grow. The results also show that influence of product innovations on company performance is statistically significant in which product innovations accounted for a very high variation in total company net sales revenue ($r^2=92.19$, $p<0.05$).

Summary and Discussion of the Findings

The objective of the study was to determine the influence of product innovation on performance at Haco Tiger Brands. It was established that Haco Tiger Brands had engaged in active product innovation for the past seven years and had introduced over 30 new products into the Kenyan markets. HTB did this through local manufacturing of some products and also by carrying in new products from other Tiger groups of companies. The carry in products (imported) were more than those that were locally manufactured, but the revenue generated from the locally manufactured products was significantly higher, meaning that they were most profitable.

Product innovation had a positive influence on the performance of Haco Tiger Brands. The study established that product innovation was relevant to the company as it contributed significantly to the sales growth of the company. This was by generating new additional revenue streams of over half a billion from innovation by 2016 up from under two hundred million in 2010. Product innovation also helped to accelerate total company sales revenue. The results showed that the total company sales revenues less innovation grew at a slower rate of 50% as compared to growth when product innovation sales revenues were included in the total company sales revenues accounting for a faster sales growth rate of 76%.

This study was anchored on the diffusion of innovation theory which explains how products gain momentum and diffuse into a social system. Product innovation contribution at Haco Tiger Brands seemed to have started slowly but steadily grew from a base of Ksh. 200 million in 2010 to over Ksh. 0.5 billion in 2016. The theory may explain the possible significant leap in innovation sales in 2013. In early 2010 as products were introduced, consumers may not have adopted to these new products immediately an explanation given in the theory. The theory explains how different people adopt to new things at different times. Conservative consumers for instance may have wanted to see proof that the products work and may have joined the bandwagon much later which may explain the revenue growth in years 2013/2014.

Del Monte and Papagni (2003); Loof and Heshmatt (2006) argue that other factors within the environment such as timing and slower market acceptance affect how people adopt to these new introductions. It is important to note that different groups of people within the same environment adapt to new things at different times. This could possibly explain the sudden leap in 2012 and the gradual upward growth trend of Haco Tiger Brands sales as seen in the earlier analysis. Rogers (1962) in his research explained that market share growth increases with more people adopting the new product or service. This also means that, if people do not adopt to new introductions, then the innovation may fail or the revenues from these innovations may be of no significance to the organization. From the data analyzed, product introduced into the market by Haco Tiger Brands appears to be accepted by the consumers but at slower rate with some products dropping off due to poor revenues generated.

Loof, et al., (2002); & Bessler, et al., (2008) reported positive relationship between innovation and firm performance. The study established that HTB's innovation activities had a positive influence on company performance over the past seven years. It's however important to note that whereas product innovation brought in new revenues to the business, the growth was slow but steady. Financial years 2011/2012 saw stagnation in innovation revenue growth with a sudden leap in 2013.

The study also established that product innovation had helped Haco Tiger Brands accelerate its growth. The total company sales revenue growth stood at 37% from normal revenues of the company's brands. However, a significant 64% growth in sales revenues was accounted for when product innovation sales were included in the total company sales. Klomp&Leeuwen (2001) found a positive relationship between innovation output and sales growth. Their research established that companies experienced accelerated sales growth as a result of more output from

innovation. Haco Tiger Brands increased its product innovation outputs from 2010 to 2016 growing the list of new product introduction to 35 which accounted for over half a billion new revenue sales for the company. The product innovations grew faster than the company revenues leading to accelerated company growth.

Conclusion

It is clear from the study that Haco Tiger Brands has engaged in innovative activities for the past seven years by entering new product categories and also renovating some of its older brands. In just seven years, the over 30 new products introduced cut across all categories saw HTB grow its total sales revenues and double its annual sales revenues by 2016. Since 2010, product innovation sales revenues had an upward growth trend, an indication that perhaps these new product introductions gained acceptance in the market. Haco Tiger Brands had engaged in product innovation by launching 35 new products into the Kenyan markets. These products cut across several brand categories and were either locally manufactured or imported from Tiger group of companies across six African countries or through contract manufacturers. It is, therefore, concluded that product innovation had a positive influence on company performance. These findings support theory and previous similar empirical studies.

Recommendations for Policy and Practice

The study recommends that Haco Tiger Brands diversifies its local manufacturing capacity. From the research findings, the locally manufactured products delivered more revenue to the company and value to consumers as compared to the imported ones from other Tiger group of companies or contract manufacturers.

The study also recommends that Haco Tiger Brands investigates the performance of carry in products. From the research finding, most of these products generated the least revenue, yet they were the majority of the 35 innovated products over the past 7 years. This will help the business invest in innovation activities that add more value to the company and those that are relevant to the Kenyan consumer.

The study further recommends that Haco Tiger Brands adopts other ways of measuring innovation effectiveness within the company. From the study, HTB focused on annual total sales revenues and innovation sales revenues as a key measure of how successful these activities are to the company. The company can use other measures such as speed to market and success or failure of products launched into the market.

Limitations and Suggestions for Further Study

The study was limited to a specific measure of performance. Annual total sales revenue was used to measure performance of both product innovation and company sales. The study did not examine other measures such as failure or success of launched products and speed to market. The study suggests that future researchers conduct a similar study but incorporate other measures of performance. This will enable them effectively measure the effect of product innovation on company performance because the study will be wider and more conclusive.

The study was limited to the use of longitudinal approach in assessing product innovation influence on company performance. Other factors outside the defined study period and data available may influence the research results. The study recommends that further research be done covering the same period beyond 2016 to understand the research finding in a wider context. This will bring out other factors that could have been missed in this research but could have influenced the research findings.

The study was limited to quantitative data from HTB's financial and sales reports. There were no views collected from company employees with regard to how product innovation has impacted company performance. The study suggests that future research incorporate qualitative data by interviewing the staff and senior management at Haco Tiger Brands to incorporate their views into the research findings. This will help generate additional findings that may help in interpreting the research better.

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Abstract

Pan-African University (PAU) is an initiative of the African Union Commission (AUC) that started in 2008 with the objective to promote higher education, science and technology on the African continent at a high academic level. The Pan-African University Institute of Water and Energy Sciences (including Climate Change) (PAUWES) is one of the five hubs of the Pan African University (PAU) and hosted at the University of Tlemcen in Algeria. PAUWES offers graduate students access to leading academic research and the latest theoretical and hands-on training in areas vital to the future of Africa's development in water, energy and the challenge of climate change.

Funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) through the German Academic Exchange Service (DAAD), the project "Higher Education Cooperation with Pan African University Institute for Water and Energy (incl. Climate Change) - PAUWES" aims to support the development of PAUWES by enhancing its teaching and research activities in water and energy sciences. The project has been implemented by a consortium of partners which includes the United Nations University – Institute for Environment and Human Security (UNU-EHS), the Institute for Technology and Resources Management in the Tropics and Subtropics (ITT) at the Cologne University of Applied Sciences (CUAS) and the Center for Development Research (ZEF) at the University of Bonn (UB). The partnership between PAUWES and the consortium of partners has brought together many institutions of higher education and research on the African continent and the world beyond. PAUWES has also benefited from a professional network of public, private and civil society actors. While the cooperation has been very beneficial to participating partners, it is however important to portray and deliberate on the cultural differences and their potential consequences (positive or negative) for Africa and Europe joint ventures.

This paper draws from the various areas of experience within the higher education cooperation between German and Algeria Partners. The paper explicates the challenges and opportunities in terms of project governance, socio-economic landscape of the project location, project management experience and multi-culturalism of the beneficiaries. The paper concludes there is efficacy in international collaboration for high education in Africa. It further concludes that today's education should empower students with relevant modern knowledge; in this case, case networking through partnership was emphasised. Research leading to entrepreneurship as a possible conduit to respond to some of the challenges faced in different African countries. The paper therefore ends with proposals for synergies in research and entrepreneurship.

Background

The African Union Commission (AUC) Agenda 2063 states that Africa's human capital will be fully developed as its most precious resource, through sustained investments based on universal early childhood development, basic education, and sustained investments in higher education, science, technology, research and innovation, and the elimination of gender disparities at all levels of education. Access to post-graduate education will be expanded and strengthened to ensure world-class infrastructure for learning and research and support scientific reforms that underpin the transformation of the continent (African Union Commission, 2016).

One of the strategies towards achieving this aspiration is through the Pan African University (PAU), an organ of the AUC for advanced graduate education and postgraduate research. Established in response to the demand for a high academic level in science, technology and innovation (STI) on the African continent, the PAU institutes focus on addressing the key priorities of the Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024). PAU is the culmination of continental initiatives of the Commission of the African Union to revitalize higher education and research in Africa (African Union Commission, 2014). There are 5 PAU institutes and PAU Institute for Water and Energy Sciences (including Climate Change) (PAUWES) hosted at the Abou Bekr Belkaid University of Tlemcen, Algeria is just one of them.

PAUWES offers graduate students access to leading academic research and the latest theoretical and hands-on training in areas vital to the future of Africa's development – water, energy and the challenge of climate change. Higher Education Cooperation with the Pan African University Institute of Water and Energy Sciences (including Climate Change) was a two phases (July 2014 -June 2016 and July 2016 and August 2018) project funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) through the German Academic Exchange Service (DAAD). The project aimed at supporting the development of PAUWES by enhancing its teaching and research activities in water and energy sciences. The project was implemented by a consortium of partners that includes the United Nations University – Institute for Environment and Human Security (UNU-EHS), the Institute for Technology and Resources Management in the Tropics and Subtropics (ITT) at the Cologne University of Applied Sciences (CUAS) and the Center for Development Research (ZEF) at the University of Bonn (UB). The partnership brought together many institutions of higher education and research on the African continent and the world beyond. PAUWES has also benefited from a professional network of public, private and civil society actors.

The first phase of the project incorporated the support for teaching at PAUWES through workshops, summer schools in Germany, e-learning materials and tools, internship programmes and MSc-theses supervision. The student population at PAUWES during this phase was 74 students representing over 15 African countries. The project further entailed the organization of networking events and the linkage of PAUWES to relevant partners for the exchange of experiences and concepts that contribute to PAUWES' institutional development. This phase observed the setup of entrepreneurship capacities through an entrepreneurship club to enhance students' interest in transforming academic and research pursuits into potential business models applicable in their communities and beyond. This

phase also put an emphasis on internship for students to get experience in companies related to their upcoming masters' research.

The 2nd phase of the project was between July 2016 and August 2018. The main aim was to provide targeted support in teaching, establishing links to institutions and administrations as well as companies. Furthermore, the project sought to strengthen the exchange of staff and students between PAUWES and the consortium partners. This was done for instance through a summer school in Germany for PAUWES students and a winter school in Algeria with students and faculty from PAUWES and consortium partners.

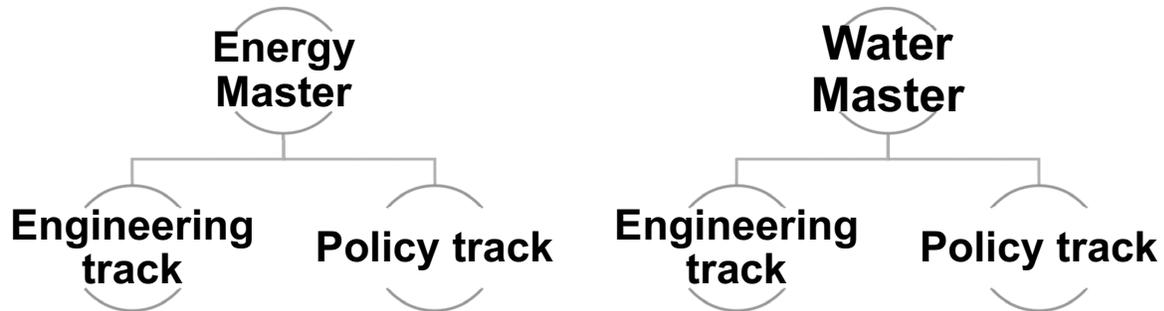
This phase attracted a higher application pool hence showing the popularity of the institute. The total number of students enrolled in 2016 and 2017 were 148 with approximately 27% being women. The students represented over 25 African countries. The graduation of the students enrolled in 2016 was at the end of September 2018. All the students were on course and graduated.

Networking was an important component of this phase. Beyond visiting institutions and companies during the summer and winter schools, PAUWES leveraged its network to disseminate the call for applications to the master programme. There was further networking in terms of supporting the links between research and practice in the energy, water and climate change nexus. To this regard, a networking conference, attended by over 150 participants was jointly organized between partners in Germany and Algeria. The PAUWES Research-2-Practice Forum was held from 16th to 18th April 2018 in Tlemcen.

Academic experience and challenges

PAUWES offers 4 masters tracks in Energy Engineering, Energy Policy, Water Engineering, and Water Policy. The delivery of the curriculum adopts standards as per the higher education framework stipulated in the Bologna Process of 120 ECTS credits (Bologna Working group 2005). The programme employs a block course structure delivered by a flying faculty whose contact hours range from 20-60 hours per course for 4 semesters over a period of 2 years. Furthermore, the masters' programme entailed a summer school in Germany and Algeria for laboratory activities, field excursions, lectures by experts which also contributes to expanding the students' professional network.

Figure 14: Academic structure of master programmes in PAUWES



The Africa Union Commission supports the dissemination and selection process of students, professors and leadership personnel of the institute. The process promotes a geopolitical balance of the representation within the student's body. It is however a challenge to get a strong pool of applicants from Least Developing countries in Africa such as South Sudan and Comoros. The multicultural experience helps to interlink people from different African countries, to work together, exchange and look into developing solutions to the unique challenges in their communities. The nationalities represented within the student body at PAUWES creates both an academic and social opportunity for student to engage and decipher the context of the different African countries. PAUWES believes this diversity is complementary to the learning experience with different contributions based on the multiplicity of knowledge backgrounds in the classroom.

Although the academic language of instruction is English, Anglophone students are met with the challenge to learn French for social and administrative interactions in Algeria. Nationally, literary Arabic and Tamazight (regional variations of Berber) are the national languages of the Algeria while French is also used widely in education, administration, culture, technology and other settings (Berger 2002). PAUWES has therefore instituted French lessons for English speaking students. Conversely, Francophone student who need to improve their English command take English classes as well. Furthermore, residing in Algeria presents the students an additional opportunity to learn Arabic.

The students identified the major academic problem at PAUWES as being the lack of laboratories at the institution to undertake practical experiments. This situation was partially addressed through the summer school in Germany where the students underwent practical training at partner universities. The students were appreciative of the experience in Germany as it presented state-of-the-art applications in water and energy, further inspiring them with ideas for entrepreneurship and utility of updated technology in their countries. However, this duration was too short to learn and internalize all the applications related to their studies. Currently, the institution is developing new

strategies to further collaborate with the University of Tlemcen laboratory facilities. It should be noted that the institution is in the process of building their own state of the art laboratories for a more permanent solution. Students also express that the institute does not have a physical library, but an online library is in implementation.

The curriculum is delivered in block courses delivered by flying professors from different universities and faculty at the University of Tlemcen, this provides an opportunity for students to create a wide academic network. Concomitantly, a flying faculty presents a lack of permanent, in-house academic faculty in the institution hence they depend on short-term academic staff. Students have expressed the insufficient contact time with the lecturers for consistent supervision and consultation. Students further articulate that they have to grasp the required concepts of a particular module during intensive one to two-week periods which is quite challenging at times.

Socio-economic experience and challenges

According to the World Bank Doing Business 2018, the quantitative indicators on business regulation and the protection of property rights for Algeria ranks at 166 out of the 190 economies which has an impact on business transactions and shipping of goods (2017). The World Bank indicators on repatriating investments and income suggest that most of the economies within this grouping require documentation justifying the purchase of foreign exchange or comply with other administrative requirements to ensure legitimacy. The World Bank further groups Algeria amongst the economies with moderate to heavy restriction on repatriating investments and income. Vice versa, when it comes to receiving investment inflows, Algeria has an equity score of 50 out of 100 owing to the required investment approval for capital transfer (2013). Albeit these being macroeconomic inferences, the experience during the project implementation encountered long lead-times and delays when local contractors were paid via wire transfer in foreign currency. The students were also required to follow local administrative processes which entail giving supplemental information when withdrawing foreign currency for international travel or personal use.

The official working days in Algeria are Sunday to Thursday versus Monday to Friday for German partners. This therefore requires operational activities to be concentrated within 4 core working days per week. Additionally, the bank holidays in Germany and Algeria have to be monitored to prevent collision in the working calendars of partners based in the 2 countries. Failure to this, the project could stand possible challenges for project activities, decision making or required reporting.

The host country provides an affordable living environment by offering subsidised accommodation, food and transportation to students. Additionally, the Masters' students receive a monthly stipend of approximately Eur 700 which is sufficient in covering the living expenses and home travel for the students. In comparison to the minimum wage of Algeria of DZD 18000 or Eur 133.28 ², adopted with guidance of the 1994 Industrial Relations Act amendment by adding section 87bis (ILO 2014), the master's stipend is competitive given the living expenses in

² Exchange rate sources from the central bank of Algeria at the rate of 135.05 to the Euro. (Accessed in Nov 2018) <http://www.bank-of-algeria.dz/html/marcheint2.htm>

Algeria. This cost benefit provokes questioning the degree to which the students are academically versus monetarily motivated to pursue the master's programme. During the 2 project phases, it was deduced that the competitive level of scholarship trends not to increase the scholarly motivation but deflect the academic focus of the students. Nonetheless, based on the rate of completion, the graduation rate has been 100%.

Algeria presents a new socio-cultural experience to the students, most of who do not come from a similar cultural context. Students have to adjust to Algerian lifestyle, food, religion, communication barriers and other cultural tenets. Students call attention to the precepts of socialization between males and females, for instance, living in separate residences with a stipulated curfew principally for female students. Resultantly, this limits the extent to which both genders can team up and work together on academic assignments after official class hours. Furthermore, Algeria is preponderantly Islamic with culture and traditions mostly guided by the Islamic teachings. Students of other religions face challenges as there are limited alternatives to establishments of other faiths.

Entrepreneurship and Networking Experience: challenges and opportunities

The African Union in its Continental Education Strategy for Africa (CESA 16-25) emphasises in its guiding principles that quality and relevant education, training and research are core for scientific and technological innovation, creativity and entrepreneurship (AUC 2017). The Future of Job report iterates that both companies and universities are experiencing numerous shifts and a more trans-disciplinary workforce, thus changing the skills needed. Workers will require to acquire new knowledge and some of the top-ranking skills such as complex problem-solving, critical thinking and creativity (WEF 2018). At PAUWES there is a wide understanding that beyond providing quality education in water and energy; engineering and policy, today's education needs to be aligned with preparing students with modern skills and tools that can be harnessed to address current and future challenges.

According to the World Economic Forum, not only is the global economy slow to generate new jobs, but also young people continue to be disproportionately affected by unemployment. This highlights the need for new approaches to education and job creation. Entrepreneurship is therefore seen as a vital solution for creating employment. With partners, PAUWES has adopted an innovative approach to promote entrepreneurship within the academic experience. For instance an active entrepreneurship club supported by training has been taken up positively by both students and staff.

The diversity of students and staff in the institution, in addition to conferences, workshops and webinars organized by the institution, brings together experts, scholars, entrepreneurs and policy-makers from different parts of the world. This presents an excellent opportunity for networking and connecting the students to the international community. Students also benefit from the large pool of PAUWES partners who sometimes offer them opportunities to conduct internships and master thesis research within their institutions. Additionally, the project developed an online platform established as the PAUWES Community of Practice³ to connect for interaction and collaboration

³ The PAUWES Online Community of Practice can be accessed on: <http://www.pauwes-cop.net/>

with, academia, practitioners, entrepreneurs and other insightful partners around PAUWES themes of water, energy and climate change.

The cooperation for higher education prioritized the need to support PAUWES integration into a scientific networks in Africa (and beyond) and have access to a wide network of potential partners. A step towards achieving this was the PAUWES Research-2-Practice Forum 2018 which brought together over 150 experts/scientists, education leaders, decision makers, entrepreneurs, private and public sector, policy makers, civil society actors and institutions interested or active in applied and practice-oriented research to discuss state of the art, challenges and innovative solutions in the areas of renewable energy, water and climate change and build strategic partnerships in Africa. PAUWES further leveraged this platform to consolidate and improve the PAUWES research agenda by bringing both research practitioners and practice-oriented experts together. It also improved the integration of PAUWES into scientific networks in Africa and beyond and established PAUWES as a Pan-African (and beyond) hub/platform for the topics of water, energy, climate change and their nexus.

The forum further contributed to PAUWES outreach and awareness to potential future collaborators. PAUWES received several propositions for future cooperation, partnerships and collaborations with various organizations, companies and institutions such as the Islamic Development Bank (IDB), AfriLabs, Africa Water Association (AfWA), Low Carbon Energy for Development Network (LCEDN), Africa Funded, among others. Additionally, this networking event contributed to the growth of the PAUWES community of practice, linkages to potential faculty and opportunities for students' internship. Other project networking strategies to broaden PAUWES included hosting online webinars with students and linkages to other projects such as RARSUS4, WASCAL5 for research and internships. These networking activities have greatly contributed to the connection between PAUWES and collaborators given the geographical location of Tlemcen and the international commuter possibilities in this area.

Scaling Entrepreneurship and Outreach at PAUWES

PAUWES recognizes that for long-term, high impact solutions that will respond to the unique challenges in the region, it is imperative to develop more sophisticatedly engineered innovations with high potential for scaling. Resources are needed to achieve this. As a first step, PAUWES now seeks to leverage the network created, the intra/entrepreneurial skills at hand, on a fabric of water and energy specialists to produce much needed products and services which address the development priorities of the continent. While entrepreneurship is not necessarily a trajectory for all students, it does come innately in some of the policy and engineering students. Nonetheless, partnerships are important in contributing further resource and capacity building for innovation and entrepreneurship.

⁴ Risk assessment and reduction strategies for sustainable urban resource supply in Sub-Saharan Africa

⁵ West African Science Service Center on Climate Change and Adapted Land Use

PAUWES seeks to achieve this in the short term by implementing 2 concepts:

1. *Transforming Master Theses into Products and Successful Businesses*

Internships and master theses provide excellent frames for the integration into engineering curricula of steps and processes for starting a new business based on identified challenges, opportunities and the development of concrete solutions and products respectively to address these challenges. PAUWES seeks to transform students' master theses into products around which a business model can be developed. This approach would build on the expertise, competences and resources of partners both from entrepreneurship ecosystem (AfriLabs) and academia (PAUWES and Stellenbosch University) for the design of a replicable and scalable model which can be adopted at the continental level. By scaling entrepreneurship initiatives at PAUWES through such incubation, PAUWES innovative graduates together with partners, can establish enterprises which can be accelerated and scaled. Enterprises that complement the objective of the Africa Union Agenda 2063, *The Africa We Want!*

2. *Doctoral Incubator*

Support African students with a focus on PAUWES and other PAU graduates in the development of a successful applied oriented PhD thesis which must lead to the creation of a sustainable start-up. Expected outputs of the program are "PhD products" such as start-ups, consulting companies, social enterprises and/or independent applied oriented research groups. The PhD products must address priorities of Agenda 2063 of the African Union in energy, water and climate change as formulated in the PAUWES research Agenda. The long-term objective of the program is to support the development of unique and sustainable start-ups, companies, enterprises, etc. providing complex and scalable knowledge-based solutions and services across the continent.

Conclusion

PAUWES continues to update its curriculum and seeks to grow a portfolio of climate change courses to be offered within each master's track. Despite the challenges, the project owes its success and achievements to the execution model of the project which put great emphasis on capacity building at technical and managerial level where by the consortium of higher education worked together with PAUWES to develop good organizational structures, reporting, setting deliverables within a time frame, for delivery of key results as stipulated in the project.

Most importantly, this was a good opportunity for collaboration between project personnel in both Germany and Algeria who came from different countries and worked closely with the personnel at PAUWES for the support to the student beneficiaries at hand. The coordination and support by PAU within the African Union Commission structure further helped to set systems for recruitment, student application and shortlisting and networking with other AU agencies. Achieving gender parity of students and faculty was highly emphasised throughout the project and having a 50-50 gender representation is a consistent message and goal for all the project partners.

There is a wide understanding that today's education needs to be aligned with preparing students with modern knowledge and tools that can be harnessed to address current and future challenges. Today's higher education in Africa should encompass a long-term vision of equipping the current generation of students with relevant skills that attend to the needs of their communities in Africa. In turn, students who are fuelled by a spirit of enquiry and supported with resources to developing innovative solutions for the challenges in their communities, can deploy their skills through entrepreneurship and intrapreneurship possibilities for job creation.

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University Education and Waste-to-Wealth

Entrepreneurship for Youth Employment in Uganda

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Abstract

While universities are mandated to teach, research and do community outreach, studies reveal that typical university communities live in relative isolation where research is more basic than applied. This study focused on; 1) determining how WWE could be fostered through linkages between universities and external agencies (communities, public and private sectors); 2) establishing how universities' resources could be optimized to promote research and capacity building for WWE. The dimensions of WWE studied were; 1) Technical & Business Models; 2) Capacity building; and 3) institutional frameworks. Baseline studies were conducted in which qualitative and quantitative data was collected through questionnaires, interviews, documents analysis. Experimentations were carried out whereby Laboratory tests on Bio-methane Potential (BMP) for different biomass types was conducted. A complete chain of briquettes production and consumption has been successfully piloted at St Kizito High School in Namugongo, near Kampala. The 20,000 kg of briquettes produced (from municipal bio-waste) by students monthly are used to cook in three schools whose total population is 2000 students. With an average net profit of \$ 3000, the project makes business sense even in absence of social-benefit accounting. Based on start-up capital of \$ 12,250, the payback period on investment is 14.7 months. Bio-char (from carbonized waste) and briquette-ash are used as organic fertilizers and biocide in vegetable gardens at the schools. New pathways for municipal waste management based on stakeholder engagement and entrepreneurship are demonstrated; departing from the conventional waste collection and disposal models. This circular enterprise which enhances Food, Agriculture, Biodiversity, Land-use and Energy (FABLE) nexus will scale-up to incorporate non-student communities (youths/women), private waste-collectors and entrepreneurs. The application of entrepreneurial models for engaging students in green enterprises integrates technological, social, economic and governance dimensions for promoting municipal sanitation, environment; energy and food security.

Introduction

Waste-to-wealth Enterprises (WWE) refers to the processes of upscaling and commercializing waste recycling. This study focuses on recycling the organic tracks of waste for production of briquettes, organic fertilizers and biocides. Conceptually, bio-waste recycling has socio-economic and environmental benefits such as: a) creating income generating opportunities for the youths and reducing unemployment; b) substitution of firewood/charcoal with bio-energy; c) promotion of organic farming; d) improvement of municipal sanitation. In light of the above, bio-waste recycling harnesses the Food, Agriculture, Biodiversity, Land-use and Energy (FABLE) nexus. The growing population in Uganda generates increased demand for food, water, energy, space (accommodation) and jobs. Attempts to satisfy the demands generate multiple vulnerabilities arising from; 1) reclamation of wetlands and forests for farming and accommodation; 2) depletion of soil nutrients and use of chemical fertilizers, biocides and disinfectants; 3) energy poverty leading dependency on charcoal and firewood for cooking/heating by 90% of the population; 4) Poor sanitation in high-density urban settlements; 5) pollution (of land, wáter and air); 6) unemployment and Poverty. The public sector agencies (local government, central government, ministries) are constrained financially to deliver core services to needy communities. Specifically, less than 10% of households are centrally connected to sewer lines and approximately 40% of municipal budgets are used to collect only 30% of solid waste. The remaining solid and liquid waste pollute wetlands and natural water bodies. Between 1997 and 2000, European Union banned fish imports from East Africa on grounds of water pollution. The polluters could be recycled for fuel and fertilizers. However, development of large-scale recycling schemes is still at an embryonic stage (Parawira, 2009). This is because recycling is done informally by groups that choose to pick plastics and metal scraps which they sell to recycling factories. The commercial value of bio-waste is not yet understood widely. Engaging stakeholders in resource recovery across the food, energy and water and eco-system nexus is therefore critical to address the natural resource loops. The products from recycling include; bio-fuels (biogas, briquettes), organic fertilizers, biocides and disinfectants; and animal feeds/nutrients. A market study indicates that a complete sanitation system for 400,000 urban slums in Kampala can be run without subsidies by selling fertilizer and soil improvement products (Karsten, 2011). The market potential, however, depends on local factors including existing markets, local industry requirements, supportive policies, subsidies and locally available materials.

Conceptual and Theoretical framework

Whereas domestic, agricultural and industrial waste is rich in nutrients and energy; and while recycling technologies exists, waste recycling is still at a small scale. Baseline surveys revealed that upscaling recycling is hampered by; a) poor quality plants and poor material choice and inexperienced contractors; b) heavy dependence of projects on donor subsidies; failing to survive beyond pilot phases; c) absence of entrepreneurial models to attract private capital; ignorance about business prospects of recycling; d) Inadequate managerial and entrepreneurial skills; e) non-streamlined policies on recycling; f) cultural and socio-psycho sensitivities on consuming some products of recycling; g) absence of inter-sector linkages and partnerships on waste recycling; h) lack of start-up and scale-up capital for potential entrepreneurs. New pathways based on entrepreneurship and partnerships are needed to attract private capital towards bio-waste recycling. Recycling as an innovative model of waste management can only be promoted when environmental, social and economic incentives are demonstrated; and capacity built for stakeholders' active

engagement. Adoption of bio-waste recycling could be conceptualized through the ***Social Construction of Technology (SCOT) Model***. It stipulates that technology works in a social context (Pinch & Wiebe 1987). Social structures influence and determine acceptability, adoption/rejection and/or modification of a technology. Specifically, communities are not passive receivers of technological innovations; they should participate in order to influence its success. It was presumed that; a) University community (students and staff) would be the primary champions for upscaling WWE as long as they have requisite technical, financial and managerial skills; b) the University community are positioned to engage diverse stakeholders to participate in WWE. The stakeholders include i) Private Waste Collectors (PWC), ii) grassroots urban communities (youths, women, others); iii) Civil Society organizations (CSO); iv) urban authorities; v) Public sector agencies and; vi) academia. This study aimed at determining how University Education could promote Waste-to-Wealth Entrepreneurship for Youth Employment in Uganda. The following questions guided the study; 1. How WWE could be fostered through linkages between universities and external agencies (communities, public and private sectors); 2) In which way could universities' resources be optimized to promote research and capacity building for WWE?

Materials and Methods

The Baseline Studies: Baseline studies were undertaken to generate data on; 1) existing knowledge, attitudes and practices on bio-waste recycling; 2) existing practices on waste recycling as business; 3) opportunities and barriers for waste reuse/recycling; 4) existing and prospective Information, Education and Communication (IEC) structures on bio-waste recycling; 5) capacity building needs; and 6) start-up and scale-up requirements (financial and technical) for bio-waste recycling; 7) existing costs of energy (firewood, charcoal, electricity, etc.); 8) existing and potential demand for briquettes; 9) distribution and marketing structures of charcoal and firewood; 10) needs for start-up and scale-up financial facilitation. Qualitative and quantitative data was collected through questionnaires, interviews, documents analysis and focus group discussions. The respondents included students, grassroots urban communities, business community; opinion leaders, local government officers and officers of local civil society organizations (CSO).

Experimentation and viability tests; Laboratory tests on Bio-methane Potential (BMP) for different biomass types were conducted to evaluate the amount of methane generated per unit mass of volatile solids (VS). The feedstock tested included domestic waste, market waste, compound waste, agro-waste, animal dung and saw dust. Weight loss of different feed-stocks in process of drying and carbonization was established to determine weight/volume loss of bio-waste during briquetting. It a measure of how many Kgs of briquettes secured got from specified volumes of feedstocks (bio-waste). Heating and cooking duration of briquettes from specific feedstock was measured and established. Through a series of experimentations and trials, energy-saving cookstoves at St Kizito High School were modified to ensure that briquettes were used in institutional for cooking big volumes of food.

Proof-of-Concept Pilot Projects: A complete chain of briquettes production and consumption was experimented and piloted at St Kizito high school in Namugongo. The following components were established; i) waste sorting at source ii) carbonizing bio-waste near source; iii) crushing the bio-char; iv) extruding bio-char into briquettes; v) solar-drying the briquettes; vi) packaging and branding briquettes for distribution and marketing; vii) using briquettes for

commercial cookery/baking; ix) use of briquettes for household cooking/baking; x) designing institutional cook-stoves that use briquettes; xi) smart agricultural units that use biochar (and ash from cook-stoves) as fertilizers and biocides. Smart farming units were set-up to test briquettes-ash as fertilizer and biocide.

Training and skilling: Short training programs were designed for students and non-school communities in; **a) technical aspects of briquettes production** (Sorting waste: carbonization: crashing bio-char; mixing the char binding: extruding briquettes; solar drying of briquettes: Packaging and storage); **b) Entrepreneurial skills** (business planning, feasibility assessments, book keeping; packaging and branding, advertising and marketing; human resource management; cost-benefit analyses. Attention was given to raw material procurement; to enable participants assess alternative uses of various waste streams to determine the cost of securing them. For instance, given that banana/potato peels are alternatively used as animal feeds, cost of securing them could be higher. Using the approaches described above, it was possible to generate data on the key objectives of the study

Findings of the study

The key findings from the study are presented in both numerical and descriptive formats.

Findings from the baseline studies

Waste collection patterns; following the privatization of waste collection, companies of varying sizes engage in waste collection and disposal; whereby homesteads pay for collection services. This partly contributes to more efficient waste collection in well-to-do residential areas than in the poor areas. Besides, poor road networks in the informal settlements reduces accessibility by waste collection trucks; leading to piling of waste. Over 40% of municipal budgets in Uganda are committed to collecting only 30% of solid waste. The remaining solid and liquid waste pollute wetlands and natural water bodies. Over 80% of the waste is organic which could be recycled into fuels and fertilizers.

Knowledge, attitudes and practices on bio-waste recycling; There is absence of streamlined policy and centrally organized recycling schemes. Focus of informal groups is put on metallic and plastic materials because the value of organic waste is not known by many. The model used by private waste collection companies is one of collection and disposal; they do not process waste for value addition.

Existing cooking and heating energy: given the high costs of electricity, LPG and paraffin, over 90% of urban households depend on firewood and charcoal for cooking/heating. Over 80% of educational institutions, ceramic companies and clay-works depend on firewood for cooking/heating. The distribution chain and usage of briquettes do not vary much from that of charcoal; meaning that there could be smooth continuity.

Findings from experimental studies

Waste-to-energy conversion of different bio-waste streams: Experimentation of the heating intensity and burning durations of briquettes made from diverse bio-waste reveals that different bio-wastes vary as shown by the table below shows the relative

Table 21: Weight loss, heating intensity and burning duration (in minutes) of briquettes made from different bio-waste streams

Composition	Weight loss during recycling	boiling time for water; 10 litres	Burning duration
Banana peelings	83%	20 minutes	330 minutes
Potato peelings	77%	30	270
Saw dust	36%	35	210
Maize cobs	75%	25	300
Irish peelings	77%	40	180
Mushroom gardens	50%	35	180
Food remains	70%	25	200
Cow dung	65%	25	250
Charcoal dust	0%	35	240
Banana mixed with maize 50%+50%		25	315
Charcoal mixed with banana 50%+50%		30	265
Charcoal mixed with potato 50%+50%		35	210
Charcoal + potato + maize + banana @ 25%		25	240
charcoal mixed with maize 75%+25%		30	240

Data in table 1 above were generated from experimentations and pilot trials during the study. The table suggests the following;

Weight loss: It is practical to carbonize waste near its source to reduce its bulk; and reduce transportation costs. Equally, it is economic to mold briquettes at locations near markets to reduce breakages over long distance transportation.

Boiling intensity and burning duration: This data guides different consumers on the kind of briquettes to use. It may also dictate the quality and price of briquettes made from different bio-waste streams; and the money to pay for collecting various types of waste.

Table 22: Institutional consumption of briquettes and waste generation in Kampala

	Aspect	Values	Remarks
	Briquettes production/consumption		
1	Briquettes used St Kizito; population of 1100	20,000 kg a year	\$ 0.24@ (\$ 4800)
2	Costs saved by school in using briquettes	25%	
3	People employed by the production unit	12	
4	Potential average market size of briquettes	40,000 schools	\$ 86,200,000
5	Waste generation in Kampala city		
6	Waste generated in Kampala city monthly	90,000 tons	
7	Fraction collected by the city	27,000 tons	30%
8	Fraction dumped in non-authorized places	63,000 tons	70 %
9	City expenditure on waste collection	40% of budgets	
10	Organic waste generated monthly	72,000 tons	80% of generated
11	Weight loss on drying & briquetting	61200 tons	85%
12	Potential Monetary value of the waste after carbonizing	\$ 0.24 @ kg x 61200 tons	\$ 14,688,000
13	Workers that could be employed by the briquette production in Kampala alone	200,000	

Note: figures in table 1 above show that waste generated in Kampala city alone could meet 17% of the energy demands of the 40,000 schools in Uganda. The rest of the needed waste (83%) could be got from other urban centers and from villages.

Table 3: Business model for monthly production of briquettes

	Capital investment (on equipment/infrastructure)	USD	
1.	Equipment: factory-scale briquettes production (20,000 kg)		
	Electric sheaving machine	300	12500
	Carboniser	1700	
	Production unit	5000	
	Electric briquetting unit	3200	
	Solar drier	2000	
	Packaging and branding devises	300	
2.	Equipment Small scale briquettes production		
	Manual sheaving machine	134	1020
	Manual crushers	186	
	Manual briquetting machine	400	
	Packaging and branding devises	300	
3.	Operational costs based on 20,000 Kg		
	Securing; sorting Bio-waste	600	2800
	Labor costs	1000	
	Costs of binders	150	
	Power (electricity/diesel)	210	
	Monthly machine maintenance costs	200	
	Packaging and distribution cost	140	
	Management/administrative costs	200	
	Statuary tax	300	
4	Briquettes sales based on 20,000 Kg		
	Gross sales from 20,000 Kg at \$ 0.20 per Kg	4000	
	Net profit: gross sales minus total operational costs 4000-2800	1200	

Notes: the table suggests that start-up capital for factory-scale production of 20,000 Kg requires is \$ **15,300** (capital investment **\$12,500**; operation costs **\$ 2800**). With the net profit of \$ 1200 earned monthly, the payback period is 12.5 months (**15,300 divided by 1200**). Capital investment for small scale briquettes production is \$ **1020**. This can be afforded by individuals and urban youths and women groups.

Processing and supply of bio-char: Individuals and groups have the option of carbonizing and crashing bio-waste (using manual devices) and supplying it to factory-scale briquettes producers who have access to institutional markets.

In the light of the above presentations, there are great business prospects for recycling of municipal waste and the prospects depend on the nature of capacity building initiatives. The section below discusses the issues, opportunities and what it entails to scale-up the waste to wealth enterprises for promotion of municipal sanitation.

Promoting WWE through linkages between Universities and external agencies

The roles of key stakeholders are determined by their interests and expectations from waste recycling.

Government and civil society agencies: their interest lies in environmental preservation and community welfare. Their prescribed role includes; a) streamlining policies in support of waste recycling; and provide relevant WWE infrastructure; b) coordinating key stakeholders; c) providing local and global networks; d) coordinating start-up and scale-up capital (credit) for small and medium enterprises; e) coordinating and financing training programs at grassroots levels.

Urban authorities: Given their big expenditure on waste management (about 40% of budgets) they are in position to invest in recycling schemes to reduce the expenditure. Besides, recycling provides employment and livelihoods opportunities to urban communities.

Private waste collectors: Some of the companies are low-resourced and occasionally end up dumping bio-waste to non-designated dumping sites and landfills due to the costs entailed. Recycling not only attracts additional income, but also reduces transportation costs.

Academia: They are positioned to develop research for evidence-based policy-making and also introduce scientific and technological innovations that promote bio-waste recycling.

Entrepreneurs: As long as the viability of bio-waste recycling as business is demonstrated, entrepreneurs are positioned to invest in recycling and avail the needed private capital into waste management schemes.

Partnerships with government and private sector agencies: In 2017, NDU organized a business dinner to initiate an academic Public private Partnership (APPP) focusing on environmentally sustainable development. The university has also conducted seminars, workshops and conferences involving line government and private sector agencies (National Environment Management Agency (NEMA); National Agricultural research organization (NARO); Kampala Capital City Authority (KCCA); National Water and sewerage corporation (NWSC); Uganda National Biogas Agency (UNBA); German-based GIZ; and others

Grassroots communities: The piles of waste that accumulate in the areas where low-resourced communities stay transmit diseases and create other sanitary challenges. As already pointed out, low resourced residences are not effectively served by waste collectors. The role of the communities would be: i) waste collection; ii) sorting; iii) providing manpower for carbonizing, briquetting, drying and marketing. In so doing they earn income, improve livelihoods and reduce the sanitary challenge in their midst.

Optimization of Universities resources to promote research and capacity building for WWE

Multi-disciplinary integration for WWE in higher institutions of learning: Premised that WWE has technical, social, and economic & policy dimensions, expertise from diverse disciplines is pooled and integrated at Ndejje University. Inter-faculty seminars workshops are conducted and the cords that link the different disciplines were identified and connected. Each faculty brings to the table diverse components that are harmoniously integrated into technical, business and managerial models

Figure 1: Framework for multi-disciplinary integration for WWE

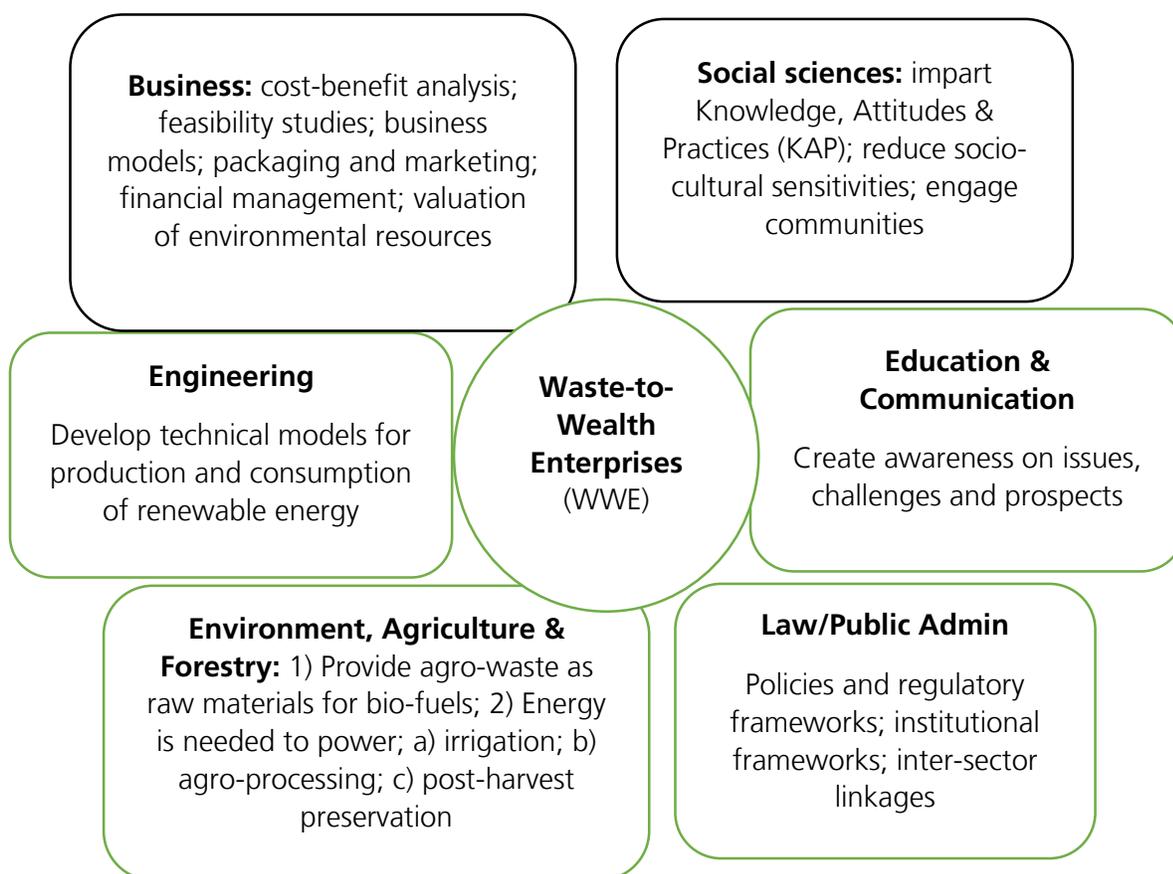
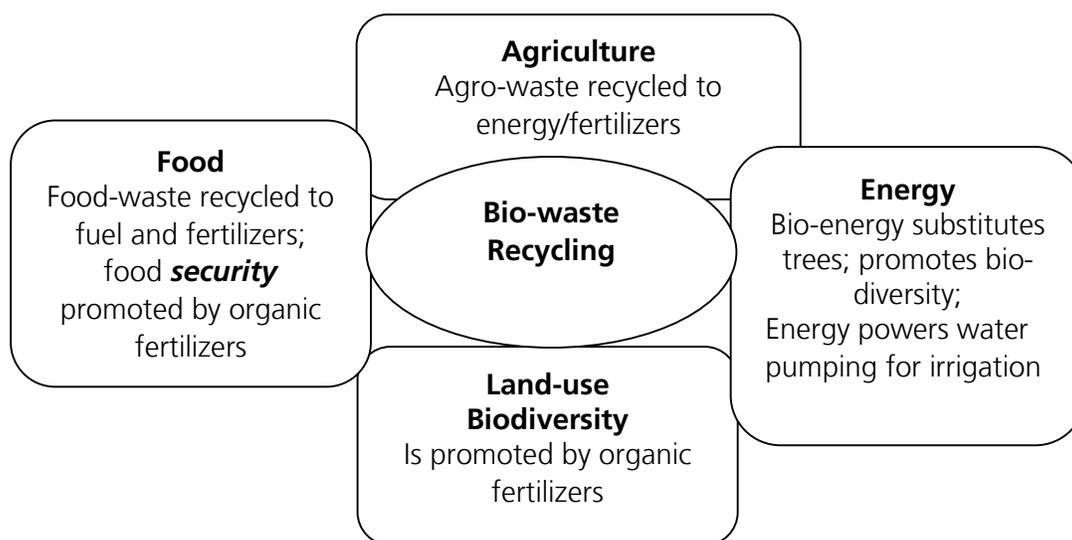


Figure 2: Bio-waste recycling along the Food, Agriculture, Biodiversity, Land-use and Energy (FABLE) nexus



Capacity building requirements for engaging stakeholders in recycling: Capacity building is perceived two dimensions; a) providing technical, managerial and entrepreneurial skills to operate recycling schemes; b) providing opportunities for start-up and scale-up capital.

a) **Skills for operating recycling schemes;** these are developed along three major domains; i) Technical hands-on skills needed to operate the various practical aspects of bio-waste recycling; ii) Entrepreneurial skills; c) personnel development and Enterprise sustainability. Multi-disciplinary programs and projects were developed at Ndejje University to integrate expertise of natural and social scientists. Curriculum on renewable energy training at the University has aspects of waste recycling. The curriculum is modified and used in training communities in waste recycling. Interactions between students, faculty and community are promoted through the **Block-placement initiative**. During recess, students are placed in rural and urban homesteads to share insights on common community challenges (energy, sanitation, health, agriculture, others). This is designed to open up meaningful interactions with communities, the students learn from communities and they also introduce social and technological innovations in areas of sanitation, health, agriculture, waste recycling and others. In the process, they analyze issues and challenges in communities and come up with solutions to some of the common problems through participatory approaches. At the level of a high school, Students at St Kizito High school take two hours of formal training per week (scheduled after classes). Some individual students often extend the study time at leisure. Briquettes are used at the kitchen and also sold to parents, teachers and at the church. The model has been successfully piloted in two primary schools, two high schools, one university and one college. The products are also exhibited in trade fairs, conferences, workshops and other fora. There are on-going arrangements to intensify Information, Education and Communication (IEC) programs and materials to create awareness and to reduce socio-cultural sensitivities constraining waste recycling. Two companies have been established following the pilot project at St Kizito high school; 1) WEYE; an enterprise that empowers urban youths, women and girls to develop renewable energy as business; and Summit green company LTD.

Opportunities for start-up and scale-up capital: The case study of St Kizito high school provides information about the technical and business prospects of factory-scale briquettes production. It demonstrates models that could be adopted to commercialize briquettes production. This could be replicated to other educational institutions, prisons, hospitals, hotels/restaurants; clay and ceramics industries. Given educational institutions are over 40,000; demand market for the briquettes could be insatiable. Unfortunately, efforts to obtain credit from financial institutions to upscale briquettes production are constrained by lack of understanding of the briquettes production enterprise by the financial institutions.

Discussions

The fact that youths constitute over 75% of the population in Uganda, means that they are key stakeholders in all sectors of national development. They ought to be skilled in various aspects of production and sustainability. Universities are well positioned to use their teaching and research facilities to prepare the youth for their rightful roles in environmentally sustainable development.

Centrality of WWE in addressing social and environmental challenges

While global demand for energy grows, reserves of non-renewable fossil-energy declines. Whereas domestic and agro-industrial waste is rich in energy and while recycling technologies exists, factory-scale recycling has been lacking. Municipal waste management can be analyzed from three dimensions; 1) as a social, ethical and civic duty associated with positive identity (Hetherington 2004, 158); 2) as a product of 'awareness of consequences' of failure to take appropriate management measures (Tucker and Speirs 2003, 305); 3); as having concrete social and economic benefits to the individuals. Barr (2005) argues that 'localization' of environmental action to everyday lives could have a significant positive impact on recycling schemes and participation rates. The typical waste management model in Uganda, based on collection and disposal, is increasingly becoming obsolete because of the mismatch between demand and resource availability. On average, municipalities serve below 50% of their targeted population⁶. The widening demand-supply gap calls for alternative management models that integrate technical, social, economic and governance dimensions. This is because fixing urban sanitation challenges goes beyond technology, equipment and physical infrastructure. For instance, while landfilling keeps waste away from homes, they have secondary effects on global warming through methane gas emissions (Scanlan, 2005). Projecting waste flows and moderating their impacts on the environment should be based on a multi-criteria decision-making (Oyoo et al 2013; Scheinberg et al., 2011). In light of the challenges, engaging stakeholders in addressing natural resource loops and urban sanitation challenges is essential.

The youths and Universities in Upscaling Green Enterprises in Uganda

In light of social and environmental vulnerabilities, promoting resilience among communities calls for well structure capacity building programs, development of synergies and inter-sector partnerships between Academia, Public and

⁶ Financial sustainability in municipal solid waste management – Costs and revenues in Bahir Dar, Ethiopia, Science Direct, February 2014 <http://www.sciencedirect.com/science/article/pii/S0956053X1300500X>

private sector agencies. In many developing countries, Academia-Public-private Partnerships (APPP) take long to grow into national trends (Sutz 2005). Promoting APPP is one of the innovative pathways that could be adopted to ensure that financial, human and technical resources of key stakeholders converge to support green economies. It is presumed that socioeconomic incentives (based on business models) coupled with appropriate institutional frameworks are key in attracting key stakeholders towards green enterprises. There are big prospects for youths' engagement in green enterprises based on **Resource Recovery and Reuse (RRR)** along the FABLE nexus. Conceptually RRR relies on leveraging private capital to achieve commercial and social value.

Incentives for youths' engagement in green enterprises should rotate around real/potential demands for the products of RRR. With appropriate orientation and capacity building, young people are positioned to be at the center of the **Circular economy**. The propagation of the 'Circular Economy' is a transition; a) from the traditional social-welfare costing (met by public funds) to private sector financing (based on revenue generation); b) from social-benefit accounting to cost-saving and cost recovery); c) from bio-waste collection/treatment and disposal towards processing and commodification; d) from single-agency projects to innovative partnership that focus on scalability and sustainability. The success of youths' engagement in green enterprises depends on viable business plans that optimize recycling and reuse market. It also thrives on creative financing mechanism that avail start-up and scale-up capital to individuals/groups that need support. Young people are generally not well endowed with financial resources and they need support for start-up and scale-up capital to operate RRR. There is also need for investment in market research and in bankable business models for cost recovery. Presumably, savings accrued from RRR can finance small and medium enterprises. RRR could reduce public expenditure on social services. The savings that are made could be re-invested in financing SMEs operated by the youths. In this way, the 'Circular Economy' is likely to transform challenges and vulnerabilities into opportunities for business, Jobs and livelihoods for young people. At the same time, the projects would supplement efforts of the public sector as it struggles to bridge service delivery gaps. A key component of WWE is capacity building for stakeholders through training and creative financing models. It calls for demonstration of scalable innovations as a value proposition to stimulate business thinking in the interface of food, energy, water and eco-systems. One of the central pillars of training is the enhancement of synergies and multi-disciplinary integration in schools, colleges, universities and research agencies. A number of scalable innovations have been piloted successfully by Ndejje University, awaiting implementation, replication and upscaling. Upscaling calls for partnerships and collaborations between diverse sectors and agencies.

Promoting Resilience for Urban Vulnerabilities; prospects for youths-led enterprises

The salient features of the urban landscape in Uganda include: Poor waste management (creating health complications); dumping of solid waste in water drainage channels (leading to floods); pollution of water bodies by wastewater and solid-waste; deforestation (caused by intense use of firewood and charcoal for cooking and heating) and; use of non-organic fertilizers and pesticides in urban farming (which distort the eco-system). The vulnerabilities are escalated by resource constraints faced by the urban authorities. The commercial-scale briquettes production model at St Kizito High school demonstrates how youths could be incentivized to supplement the resources of the urban authorities in addressing the vulnerabilities. The model demonstrates how youths-led enterprises could

enhance the FABLE nexus by way of; i) converting piles of municipal bio-waste into briquettes to save forests and to reduce flooding; ii) using briquettes-ash as a fertilizer and pesticide for urban farming; and iii) reducing water pollution by recycling bio-waste and wastewater. One of the factors limiting upscaling and replication of the model nationwide is inadequate start-up and scale-up finances. The youths-led enterprises could be optimized through synergies and multidisciplinary integration. Economists, social scientists and natural scientists are well positioned to converge their expertise to develop sustainable models for promoting the urban FABLE Nexus. For instance, briquettes industry is constrained by cheap charcoal and firewood; underpriced by a margin of 30-40%. Accurate valuation of trees by economists, social and natural scientists could facilitate evidence-based policy making to be done by government agencies. While academia develops business and technical models for waste recycling, civil society could do the grassroots implementation. The feasibility of dried fecal sludge as a source of biogas and industrial solid fuel was verified by natural scientists in Dakar, Kampala and Accra (Muspratt et al, 2014). The calorific value found was comparable to other biofuels such as coffee husks, rice husks and sawdust. The Hofmann kiln in Kampala that uses fecal sludge produced bricks comparable in quality to those made using other biomass fuels (Gold et al, 2014). Moreover, the use of fecal sludge as fuel generates revenue 2 – 35 times higher than the sale of fecal sludge as a soil conditioner (Gold et al, 2014). To make this a reality, social scientists need to reduce psycho-social sensitivities associated with using fuel made out of fecal material.

Financial empowerment of the youths: The Social Network Perspective: Given that financial requirements to initiate recycling scheme are high (Walekhwa 2009), capacity building programs should focus on; a) identifying types of resources within youths' communities; b) positioning youths to influence resource exchange within their social networks. Formation of strong social networks anchored on SACCOS is one of the options. Social networks are relationships that exist between individuals/groups; the ties holding them together and resources at their disposal (Borgatti et al 2009). The principle of social network resource-sharing holds that individuals and groups are influenced by ties or connections. The resources include ideas, information, social support and financial support (Scott 2012). The social capital that can be leveraged entails communal use of resources, collective energy, moral support, interpersonal trust and reciprocity (Kadushin 2012). Social networks could act as change agents for youths to acquire and sustain ideal resources and appropriate practices. The network structures could confer benefits, opportunities and/or constraints for the youths (Borgatti et al 2009). Social networks are instrumental in developing efficacy and community resilience for coping with urban sanitation and environmental challenges (Rowson et al., 2010). Building effective social networks could promote self-efficacy among the youths. Waste collectors experience disrespect and outright scorn from fellow-citizens because handling untreated waste is considered demeaning. By earning their own income through recycling, the marginalized youths could develop self-confidence and financial autonomy. For girls in particular, social norming could address stigma created by years of social marginalization. Beyond entrepreneurship and social welfare, environmental issues are central in building resilience against urban vulnerabilities.

Social norming and youths' empowerment: Bio-waste recycling could be influenced by cultural, social and psycho-social factors such as individual, intrinsic motivations, social influences (Kakembo 2018; 2012). New social norms are needed to promote waste recycling (Tucker & Speirs, 2003). Social norming is a psycho-social approach

that cultivates constructive social norms based on social cohesion, peer influence, group consensus; communal decision-making, social pressure and social capital. It ought to address irresponsible waste dumping, zero littering and waste sorting (Nye & Burgess, 2008) and waste recycling. Since young people behave and act in socially acceptable ways, modifying their actions can be achieved through influencing their social networks. As long as an individual depends on the network for wellbeing, he/she is expected to adopt group norms and practices. By promoting social identity and collective value systems, environmental sustainability is incorporated as a guiding principle (Rabinovich et al., 2010). Conceptually, the youths in a social network could start by complying with group norms to avoid a feeling of guilt, or to ensure that they 'fit in'. With time, they develop 'intrinsic' motivations to sustain the practices that conform to group norms (CCCAG, 2010). The SCOT model stipulates that reasons for acceptance, modification or rejection of a technology lie in the social set-up of the community. Within the notion of interpretive flexibility (Doherty et al 2006), technology generate diverse and evolving expectations among various social groups. For instance, sanitation and energy accessibility make more appeal to females than to males. Overcoming social and psycho-social sensitivities calls for intensive marketing; without which recycling schemes could fail (Robinson & Read, 2005). Because of sensitization efforts, waste recycling and reuse is gradually improving in Kampala city where sludge and urine are used in growing ornamental plants (GTZ, 2010).

Conclusion

The WWE discussed above demonstrate that youths could be incentivized to engage in municipal waste management. Their engagement fills the demand and supply gaps created by the inadequate resources at the disposal of the urban authorities to manage municipal waste. Engaging youths in WWE calls for; 1) capacity building in terms of training and financial facilitation. Government, CSOs academia and other development agencies could play a central role in building the capacity of private waste collectors and the grassroots urban communities. Engaging key stakeholders starts by defining their core interests and thereafter defining the role that they could play. The success of recycling schemes depends on integration of technological, social, and economic approaches. This new pathways for municipal waste management is based on entrepreneurship and business modelling. The approach which departs from the conventional waste collection and disposal models is an innovative approach within the framework of Social Construction of Technology (SCOT). It transcends technology, equipment and infrastructure and embraces social, economic and governance dimensions for promoting municipal sanitation, environment; energy and food security. Waste recycling as a waste management approach makes rational sense even in the absence of social-benefit accounting.

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Air travelers' satisfaction with security screening

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Abstract

The aim of the descriptive study is to gain an understanding of the perceived level of fairness in their experience of security screening relation to their satisfaction. The context of the study was a major aviation hub in East Africa. The target population was all departing international passengers. Primary data was collected using a self-administered questionnaire. The respondents were selected using convenience sampling of passengers who had just completed the final security check at the departure area of the airport. A total of 251 usable responses were collected from a target of 384 respondents giving a response rate of 65 percent.

The findings contribute to the existing body of knowledge on the relationship between the perceptions of fairness of security procedures and their influence on satisfaction. One way between groups analysis of variance (ANOVA) was conducted to test for statistical significance. A Cronbach's alpha of 88.7 was computed demonstrating a high level of internal consistency of the survey instrument. The adequacy of security procedures, level of communication provided before and during the screening process, consistency and fairness were found to have a significant relationship to the level of satisfaction reported by passengers. The findings suggest that there are significant differences between groups' perception of different elements security procedures.

The implications of the study are twofold. The study was cross sectional and indeed was impacted by significant changes in security procedures at the airport at the time of the study. A longitudinal survey may further mitigate the impact of the variances of responses and support a robust contribution to the development of a theoretical model of airport passenger satisfaction. Airport managers could use the results of this study as inputs to enhance the design of screening procedures in modern hubs to enhance the passenger experience to drive revenue growth.

INTRODUCTION

Background

Kenya is a leading tourism destination in East Africa. However, the growth has been hindered by security related challenges over the last twenty years. The sector generated an income of 1.2 billion US dollars for Kenya in 2017 (Business Daily, 2018). The tourism sector accounts for 11 percent of Kenya's gross domestic product (GDP), and is the third highest foreign exchange earner after diaspora remittances, and horticulture exports. For every 11 tourists who visit the country one job is created (Ministry of Tourism, 2018). The total number of people directly employed in tourism in the country is 206,500 (UNWTO, 2015). The Ministry of Tourism's National Tourism Blueprint (NTB, 2018) indicates that the country aims to achieve four million tourists, and the creation of direct employment in the sector of 561,800 people by the year 2030.

Following the 1997 Likoni land clashes in Mombasa, beach tourism was negatively impacted. The 1998 United States Embassy bombings and the 2002 bombing of the Kikambala Paradise Hotel led to travel advisories from Kenya's key source markets of Europe and North America. As a result of these advisories there was a significant decline in tourist visitors to Kenya. Coupled with these developments, the 2008 post-election violence led to major disruptions in domestic and international tourism. In particular, the effects were felt by airlines, airports, conference organizers, hotels and insurance service providers who are all part of the tourism and travel organization network. Terror attacks by Al Shabaab militia between 2011 and 2015 saw the decline of tourist arrivals to 1.18 million from 1.8 million in 2011.

Kenya's Ministry of Tourism projects that the industry is expected to register a growth of 16 percent per year to support the attainment of Kenya Vision 2030 which seeks to secure the country's place as one of the world's top ten long haul destinations. This shall be driven by increased air connections in and out of the continent, relaxed travel restrictions for Africans under the visa on arrival initiative announced by the President of Kenya, H.E. Uhuru Kenyatta (Business Daily, 2017), direct flights to the United States of America (USA) which began on October 28, 2018. This ambition is also supported by the Single African Air Transport Market (SAATM) which is part of the Africa Agenda 2063 which seeks to drive the economic integration in Africa by supporting the implementation of the 1999 Yamoussoukro Decision (YD). Given recent developments in regards ease of access for African travelers to Kenya as well as the desire to connect to other global aviation hubs in Europe and America, it is relevant now more than ever to examine the consumer perceptions of the legally mandated security measures at Kenyan airports. Additionally, this study was conducted at a time when the Jomo Kenyatta International Airport and Kenya Airways were pursuing the Last Point of Departure authorization from the Transportation Security Administration (TSA).

Security is important. All passengers experience a basic level of security screening from their arrival at the airport to the time they board the flight. These measures are in place to ensure the safety of the traveler as well as the integrity of the entire civil aviation industry. The experience of undergoing airport security screening takes effort on the part of the air traveler. This has an impact on satisfaction and the desire to re-buy or suggest travel to the country by travelers to friends and close acquaintances. Airport authorities who are concerned with passengers from a consumer

relations point of view should consider customer satisfaction as an output and measure of their good business practices. It is important to note that the airport is the first and last point of contact with a country or region by most travelers. Therefore, providing a high level of service and hence customer satisfaction has a bearing on the overall perception of the airport and the country in general. It is therefore crucial to ask what impact the experience of security screening procedures at that point have on the overall tourism satisfaction of the country. Thus, it could be argued that the security screening procedures at airports influence the level of customer satisfaction of air travelers at airports. This study specifically examines the level of satisfaction for departing international passengers as they are subject to the most stringent security screening measures which provide a suitable platform to study the processes and experiences. In addition, these passengers form the basis of most of the empirical studies related to airports by other researchers namely, Sindhav et al, 2006, Lum et al, 2015, Wiredja et al., (2015).

Problem Statement

Systematic social observations assist in providing a comparison between the perceptions and experiences of passengers. The screening process at an airport may entail additional screening, longer lines or unpredictable waiting times. There are concerns during the process as regards the wellbeing of the frail, old, disabled or the young. If these concerns are deemed too obstructive the security inconvenience factor may drive travelers to consider other alternatives. Therefore, there is an urgent need to understand airport security interventions in a manner that is subject to scientific inquiry. As such the outcomes such as customer satisfaction may then be evaluated, and the fairness of the procedures may be assessed.

Individuals are willing to accept a wide range of security measures at airports to protect themselves even if those measures are perceived to be intrusive (Davis and Silver, 2004). Airport security personnel screen all travelers, airport suppliers, employees, and airport contractors irrespective of the level of suspicion. Given the volume of people screened and searched by airport security every day, it is imperative that an examination of both its effectiveness and fairness be conducted. Overall there have been limited research efforts in the field of airport security in Africa.

Security officers maintain security by fostering the feeling of safety, a mood of confidence in the proper circulation of goods and people. In conducting airport security screening there exists a balance between safety and security concerns related to the protection against frightening events such as terrorism. Every episode of screening is unique and therefore has an impact on fairness and procedural justice (Adey 2009, Lum et al, 2015). The legal mandates related to public safety such as increased security screening protocols for public transport, long distance transportation, and even access to other public areas such as shopping malls, hospitals and stadia. These measures lead to higher costs by the consumer in the form of time and effort; for the promise of increased security and personal safety. This study is important and timely given the relative lack of empirical research on the subject in countries such as Kenya that are situated geographically close to the threat of Al-Shabaab terror attacks in East Africa. There is a need to determine through scientific means whether these measures as applied in the context of Kenya provide the benefits they are designed for.

In summary, air travel represents an integration between primary and facilitating services. Travelers purchase a primary service which is an air ticket to go from point A to point B. The service scape that surrounds the core air travel service includes facilitating services. How the traveler utilizes these facilitating services depends on whether they are mandatory or optional. Airport security screening is one such mandatory facilitating service. An understanding of how user's perceptions and evaluations of how such services affect their satisfaction with the overall airport services. The importance of evaluating the consumer's perception of justice in the implementation of legally mandated security services is critical. An understanding of whether or how these experiences at the screening points influence customer's satisfaction is timely.

Objective

The general objective of the study was to investigate the effect of airport screening procedures on the air traveler's customer satisfaction. In order to do that the study sought to establish an understanding of the relationship between the performance of security screening services and the level of satisfaction experienced by travelers. In order to do so the study examines the relationship between airport security and customer satisfaction. For the purpose of this study, the departing international passenger is regarded as the airport customer. The specific objective is:

1. To determine the influence of airport security screening procedures on customer satisfaction for air travelers in Kenya

Value of the Study

Over the last twenty years Kenya's performance in tourism has been impacted negatively by security fears. This has been exacerbated in part by travel advisories from western governments, domestic political disruptions leading to instability and perceptions driven by negative publicity which have had a negative effect on would-be-tourists to Kenya. The tourism performance of any country is sensitive to political instability which could threaten tourist's personal safety and security (Sharpley et al., 1996). It could be argued that there is more to attracting tourists that investing in infrastructure such as airports, roads and rail services. Accordingly, the airport represents a site in which flows of information and capital are facilitated against a background of condensed and highly regulated surveillance practices. In short the airport epitomizes the problems of mobility and state power, capital and screening, geo-politics and geo-economics coagulate as a problem of security addressed through combined surveillance and disciplinary practices (Salter, 2008).

The emergent issues on the relationship between airport security and tourism have been identified. The broad issue in this study is the extent to which airport security influences the customer satisfaction of an air traveler. This study has the potential to offer value to academicians, policy makers and management at airports. The study is valuable for academicians specifically in the field of procedural justice theory which has been used extensively in evaluating satisfaction in the context of legally mandated security processes. Procedural justice is important to customers because in service contexts customers evaluate both processes and outcomes. Passenger screening is one component of the airport security system. This system involves airport security personnel operating a set of screening devices in

combination with security procedures. This process is dynamic and is set up in order to sequentially assign passengers to multiple screening levels which is based on the perceived risk of the passengers entering the screening process.

Passengers and others accessing the airport facilities are processed through sequential screening that progressively eliminates the risk of threat items entering the airport terminal or on board an aircraft. The security checkpoint system is located at the entrance of an airport, airport terminal and airline departure gate help to establish a barrier of protection. The processes at this point includes the screening passengers, carry-on baggage as well as hold luggage for threat objects using various metal, explosive and trace detection devices (McLay, 2010, Lee et al., 2009). Airport management needs to be aware that these processes have an impact on the satisfaction of travelers, their decision to re-buy and recommend others which has a direct impact on airport profitability and growth.

Hall et al., (2004) argue that tourism is irrevocably bound up with the concept of security. Travel and tourism are the world's largest industry in terms of numbers of people participating and the amount of resources generates, and employment capacity. The International Aviation Transport Association (IATA, 2018) predicts that the demand for air travel were reach 7.3 billion passengers per annum in 2034 which is more than the 3.3 billion in 2014. The United Nations World Tourism Organization (UNWTO) projects that global tourism were reach 1.8 billion by 2030. Despite safety and security challenges in recent years, international travel continues to grow strongly and contribute to job creation and the wellbeing of communities around the world (UNWTO Secretary General, Taleb Rifai 2017). The policy makers in the field of internal security, tourism and transport will gain from the outcome of this study to enable decision making to support the growth of air travel in Kenya.

LITERATURE REVIEW

Security screening procedures at airports can reduce the occurrence of terror and related attacks on civil aviation. Empirical studies show that security screening and searches are an effective means of preventing violence in airplanes and airports. However, the gap in research lies in the examination of the procedural fairness exercised by airport security and or screening officers when passengers go through the security check points. Even though basic screening is offered to the entire population of air travelers, security officers exercise discretion during searches which can lead to differential treatment of passengers and therefore influence the level of satisfaction experienced by the air traveler.

Justice Theory

Justice theory has been studied in industrial and organizational contexts as an aid to understand the interpretation of interpersonal interactions. Blau (1964) expounds on social exchange; Adams (1965) inequality and Homans (1958) social exchange, which provides a foundation for justice theory. Justice theory is a framework that helps in understanding the factors that influence how consumers interpret the outcome, procedures and information received during a service encounter. Colquitt (2001) identifies four dimensions of justice namely procedural, distributive, interpersonal and informational justice.

Fairness perceptions significantly influence customer satisfaction. Oliver and Swan (1989) report this influence in the context of salespeople, level of success experienced (Oliver and DeSarbo, 1988) and service failures (Smith et al., 1999). Within an airport setting there are a variety of contexts in which various types of interactions take place. Some of them are optional such as food and beverage services, car parking, beauty salons, landside retail and other social and other economic activities. There are mandatory activities such as security screening, immigration checks and customs procedures. In such an environment passenger's experience a wide range of social and economic outcomes. It is in this context that justice theory provides an appropriate framework for the study of airport service experiences.

Procedural Justice

Procedural justice theory posits that people's perceptions of the fairness of justice interactions can contribute to the legitimacy and compliance that they afford the justice system. It reflects the perceived fairness of decision-making processes and the degree to which they are consistent, accurate, unbiased and open to voice and input (Thibaut and Walker, 1975; Leventhal, 1980; Tyler, 1988). During airport security screening passengers have a low level of process control. Accordingly, the consumer's perception of justice during the procedure may be influenced by an evaluation of other criteria. These may include whether the security measures are applied in an unbiased manner and with consistency. Procedural justice is important to customers because in service contexts customers evaluate both processes and outcomes.

Tyler and Huo (2002) argue that procedural justice provides a way for acceptable decisions to be made in situations in which not all participants can be given what they want or feel they deserve. Within airport security positive procedural justice occurs when an individual, even if incorrectly selected for additional screening is treated respectably, with trustworthy motives and with neutrality and consistency. Where the selection for additional screening is not unjust, it may be perceived to be procedurally unjust if done without neutrality or consistency.

Distributive Justice

Distributive justice relates to the fairness of an outcome. Those who perceive the benefits of an outcome to be commensurate with their inputs believe that distributive justice is present. Should airport security screening require new inconveniences, such as time-related costs then an appropriate evaluation will mean that the additional effort provides increased safety benefits. Passengers experience this type of justice if and when they believe the increased costs and inconveniences yield a commensurate level of safety and wellbeing. Distributive justice could be established by consistent and transparent rules about screening.

The quality of treatment relates to how the security screeners touch individuals or their property, how they speak to them and what level of privacy they might afford them during an additional search. According to Tyler and Huo (2002) trustworthiness relates to whether communication to travelers or other airport users is done explaining why they are chosen for further searches. This may assist in developing motive-based trust and contribute further to the acceptance of authoritative decisions.

2.4 Interpersonal and Informational Justice

This type of justice relates to respectful behavior. Interpersonal and informational justice are a reflection of the truthfulness and adequacy of explanations. Bies and Moag (1986) view interpersonal and informational justice as a reflection of the perceived fairness of the enactment and implementation of decisions. Greenburg and Cropanzano (1993), posit that interpersonal justice is viewed as reflecting the respectfulness and propriety of communication. The aspect of interactional justice relating to sharing of information is referred to as informational justice. In an airport context, interpersonal justice is conceptualized as consumer's perceptions regarding whether they had been treated with courtesy and respect and whether airport security personnel had acted professionally.

The perceived level of informational justice involves the consumer's perceptions about communication from the aviation authorities or airport operator about the security procedures. This element of justice involves the traveler's concern with whether communication about new and existing security procedures was received. If it so, then it would be perceived as open, thorough, reasonable and timely information. Travelers are more likely to adopt to different screening procedures when they receive adequate information. The present study uses the four factor justice conceptualizations outlined above.

Empirical Review

Sindiga (1999) argued that bad publicity, internal security, poor tourism infrastructure and competition from South Africa were reasons to focus on domestic rather than international tourism in Kenya. Waguku (1998) identified security, infrastructure and poor tourism marketing as contributing to a slump in tourism. He further argued for the maintenance of security and personal safety of tourists. Gakuru (1993) identified that marketing strategies have not succeeded in portraying a better picture of Kenya to the outside world as a safe tourist destination.

Sindhav et al., (2006), examined fairness of security screening at an airport in the USA. In a survey of 775 passengers and found that a positive relationship between passengers' perceptions of fairness, treatment and procedural justice and their satisfaction with the airport experience. They found a positive relationship between passengers; perceptions of fairness, treatment and procedural justice and their satisfaction with the airport experience. The study was seminal, however, since it was conducted in one country, the results were not generalizable. Furthermore, 90 percent of respondents were of Caucasian extraction. No further information is provided, and neither are perceptions between races explored.

Hasisi and Weisburd (2011) studied the impact of ethnicity in passenger perceptions of security screening at an airport in Israel. Israeli-Arabs were more likely to be negative about airport security checks than Israeli Jews. However, they also found that the differences between the two groups' perceptions of legitimacy had a strong correlation with the perception of the airport screening procedures. Their results demonstrate that profiling strategies that include embarrassing screening procedures may threaten passengers' trust in airport security. Therefore, any enhanced security procedure that is focused on any particular section of the traveling public may compromise their perception of fairness and legitimacy and limit their cooperation.

Lum et al., (2015) argue that in conducting airport security screening there exists a balance between safety and security concerns related to the protection against frightening events such as terrorism. They also found that there was emphasis on effectiveness or fairness in every unique screening episode. This has an impact on fairness and procedural justice. Hudson and Ugelvik (2012) found that the number of security violations when compared to the number of aircraft boarding were small. In addition, the incidents were found to be minor and not terrorism related.

These studies indicate that by exploring the quality of decisions, quality of treatments and trustworthiness in airport security procedures is critical. A further study of the subject was providing an understanding of the discretion in airport security screening and the impact of procedural justice on the quality of justice in airport security. A better understanding of the level of discretion and its consequences present the airport operator with more evidence in developing and enhancing a security screening policy.

Past research has mostly surveyed passengers on their level of customer relations and satisfaction for purposes of evaluating service quality, marketing of airports and benchmarking in industry studies. These studies are conducted by global surveys of passengers by organisations such as Airports Council International (ACI) and Skytrax. Respondents are invited to report on their perception of wait times, and general customer satisfaction. The race, ethnicity, gender, status and age is usually not a component of these surveys (Fodness and Murray, 2007, Lum and Kennedy, 2012).

Thus, it could be argued that individuals are willing to accept a wide range of security measures at airports to protect themselves. People are concerned about the fairness of airport security, even in the light of their fearfulness. A contextual gap is observed in the studies reviewed, namely that investigative efforts have been conducted in western environments. Therefore, this study identifies this gap in the lack of such studies in the African context as a possible avenue through which to enrich the discourse on the fairness of airport security screening and overall passenger satisfaction with the travel experience.

RESEARCH METHODOLOGY

Research Design

The present study is exploratory in nature. Therefore, the instrument adopted to collect data was one that had been used before by Colquitt (2001) and modified to suit the Kenyan context. Because of the nature of the study, the researcher deployed non-probability sampling techniques. Nassiuma (2000), found that pilot surveys were useful in determining the level of expected variability, possible sources of errors, and problems in studying the sample units as well as possible response and measurement constraints. This is an established practice in order to evaluate the reactions of the respondents.

In order to create an appropriate survey tool, the questionnaire was reviewed by five senior members of the airport management team and one university professor. Twenty respondents who were frequent fliers were selected for the pilot study. The respondents were actual air travelers who at the time were situated in the departure area of the airport terminal. The pilot study helped to identify the acceptable wording of the questions and in determining the

willingness of respondents to co-operate. Upon receipt of the responses from the pilot further corrections and adjustments were made to the survey instrument.

Data Collection

The study utilized primary and secondary data. A survey questionnaire was used to collect primary data. Secondary data was used to determine the population of interest which comprised departing passengers from the Jomo Kenyatta International Airport (JKIA). Official passenger traffic data on the passenger traffic was identified from the Kenya National Statistical Abstract (2016) published by the Kenya National Bureau of Statistics (KNBS).

Primary data using a questionnaire instrument with minor adjustments to suit the study's objectives and context. The data collection instrument had fifteen questions related to age, gender, regularity of flying, purpose of the flight, and satisfaction with the airport experience. Other areas of interest included nature of travel be it business, or leisure. Security procedures, communication, and overall airport experience were evaluated using a five-point Likert Type scale ranging from strongly agree to strongly disagree. This format applied to other choice alternatives between air and other forms of transport, namely road and rail.

Sampling and Data Collection

The unit of analysis for the study was the travelling adult specifically commencing their departure to an international destination from Kenya through JKIA. This type of sample has been identified by previous studies as best placed to answer questions about perceptions of service at airports namely, Sindhav et al., (2006); Fodness and Murray (2007) and Lum et al., (2015). Wiredja et al., (2015) found that most authors have focused on departing passengers. This is because there is longer waiting time for this group of passengers. This time is sufficient to fill questionnaires or conduct interviews for departing passengers compared to that for transit and arriving passengers. The formula proposed for sampling is the one proposed by Krejcie and Morgan (1970) which proposes the following formula:

$$s = X^2 NP(1 - P) \div d^2(N - 1) + X^2 P(1 - P).$$

s = required sample size.

X² = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

The sample size was determined as 384.

Table 23: Sample Size

Airport	Number of departing passengers per year (N)	Sample Size
JKIA	2,053,000	384

N is the number of departing passengers as per Kenya National Statistical Abstract (KNBS, 2015)

Convenience sampling was applied to select the respondents. The enumerators were positioned at the departure's hall right after the final security screening check at the airport. Every willing passenger was handed a paper questionnaire to complete. This method of data collection afforded the researcher the ability to sample passengers at all times of the day and with ease. This procedure is similar to past studies namely Sindhav et al, (2006). The questionnaires were self-administered to willing passengers who had just completed the final security check. The passengers who accepted to fill in the questionnaires were asked to drop them at the departure gate for collection.

Data Analysis

The total number of collected responses was 251 giving a response rate of 65 percent. Data analysis was conducted in two parts. First is the data management and second is the statistical evaluation. Data management was conducted in three steps namely editing, coding and cleaning. Editing checked and adjusted the data for omissions, legibility and consistency. The purpose will be to ensure completeness of, consistency and readability of the data prior to coding. Coding was used to determine how the interpreting, classifying and recording the data was done. Data cleaning checked for errors and verified that the coding was done appropriately.

Three types of statistical analyses were deployed. These are descriptive analysis, factor analysis, and one-way ANOVA. Descriptive statistics reviewed the frequency distribution. Mean scores and standard deviations were applied to determine the basic and general characteristics of the data. The data was then subjected to tests of the assumptions upon which parametric tests were applied for further analysis. Using cross tabulation, correlational analysis and Chi-square tests of independence of association, the study will be sought to establish the existence of significance of association between responses. One way between groups ANOVA test was performed to test if there were significant differences in factors that define airport security, procedural justice and subsequently their influence on customer satisfaction at the airport. The Statistical Package for the Social Sciences (SPSS) version 18 was employed to conduct the data analysis.

RESULTS AND CONCLUSION

A Cronbach's alpha of 88.7 was computed which indicates a high level of internal consistency of the instrument. There were significant differences between groups' perception of different elements security procedures. The adequacy of security procedures, level of communication, consistency and fairness were found to have a significant relationship to the level of satisfaction reported by passengers. Overall the respondents returned a rating of 7.1 level of satisfaction with airport services.

A total of 364 questionnaires were issued and 251 usage responses were found. 66 percent of the respondents were male and 34 percent female. The age profile indicates that a 77.5 percent of respondents were in the age 18 to 42 years. Table 2 indicates that the most respondents were from Sub-Saharan countries. Purpose of travel: 58 percent of travelers were on business or professional travel. In general passengers were satisfied with the airport experience.

Frequent fliers reported a more favorable response to additional security checks than any other passenger group. Differences in nationality were reported to be the strongest indicator of the perception that increased security checks led to feelings of being safe. The age of travelers had no significant impact on this factor. The age, gender of the respondent and the nationality had the strongest impact on the perception of the fairness of airport security procedures. This was also true for the perceived level of unbiasedness of the security procedures.

The level of communication had no significant impact on the level of perceived satisfaction with the security procedures for all types of passengers. Gender and nationality had a significant impact on the level of satisfaction with the airport experience. This was especially so with regards to the check-in experience and the evaluation of the level of courtesy of airport employees. A strong statistical significance is noted with the level of satisfaction frequent fliers report with regards to their overall evaluation of the security processes at the airport.

Conclusion

The present study was conducted to JKIA as it is the largest single entry and exit point for air travelers in Kenya. The results demonstrate that the perception of security procedures at the airport have an impact on the level of perceived satisfaction with the overall airport experience. Passenger characteristics such as age, gender and nationality indicated a strong relationship to the perception of the fairness of airport security procedures. This was also true for the perceived level of unbiasedness of the security procedures. Frequent fliers reported a more favorable response to additional security checks than any other passenger group. Differences in nationality were reported to be the strongest relationship to the perception that increased security checks leading to feelings of being safe.

Gender and nationality were found to have a significant relationship with the level of satisfaction with the airport experience. This was especially so with regards to the check-in experience and the evaluation of the level of courtesy of airport employees. A strong statistical significance is noted with the level of satisfaction frequent fliers report with regards to their overall evaluation of the security processes at the airport.

Implications

Overall the study reported a positive evaluation of the security procedures, airport experience and the level of communication received during the travel experience at JKIA. This was especially so for frequent users of the airport, which is a reflection of their familiarity of the facility and the procedures present therein. The study assessed fairness in security screening procedures in regard to seven items. These were adequacy, design, consistent application, courtesy, respect, unbiasedness, professionalism and the ability for appeal. The element of design of the security

procedures was the most significant indicating the need to design security screening procedures respecting the concerns of both male and female passengers. The design of security procedures was also noted to have a significant negative perception with nationals from the Middle East and North Africa.

The theoretical implications of this study are that there is a need for further testing of the relationship between the perceived fairness of security screening procedures and the level of customer satisfaction experienced by passengers. The present study undertook a convenience sampling design and was in its intention a descriptive study. Future examinations of this kind will apply probabilistic sampling techniques and should be conducted longitudinally. This approach will support scientific examination of the variables that most influence customer satisfaction of the international air traveler. Such a methodology will also support the efforts to unearth a robust conceptual model to explain the relationship between security services and their impact on the air travel experience.

The managerial implications of these findings are related to the practice of security screening at airports. The findings indicate that travelers are willing to be subjected to extensive security checks for their own and others' safety. In addition, the study finds that there is a tendency to prefer the use air travel when other transport means such as road and rail are available. This suggests that the demand for air travel remains robust. As such airport operators could take advantage of this positive perspective to enhance the level of courtesy and communication received by passengers at every screening encounter. This will support the positive experience of travel and possibly enhance the word of mouth promotion of the airport and enhance the possibility of re-buy.

These results are an indicator that there are differences in perceptions related to security screening procedures in the Kenyan context that deserve further investigation and study though a more rigorous study. The input from this study also provides support for the development of a conceptual model to study the impact of airport security on overall airport customer satisfaction in Kenya.

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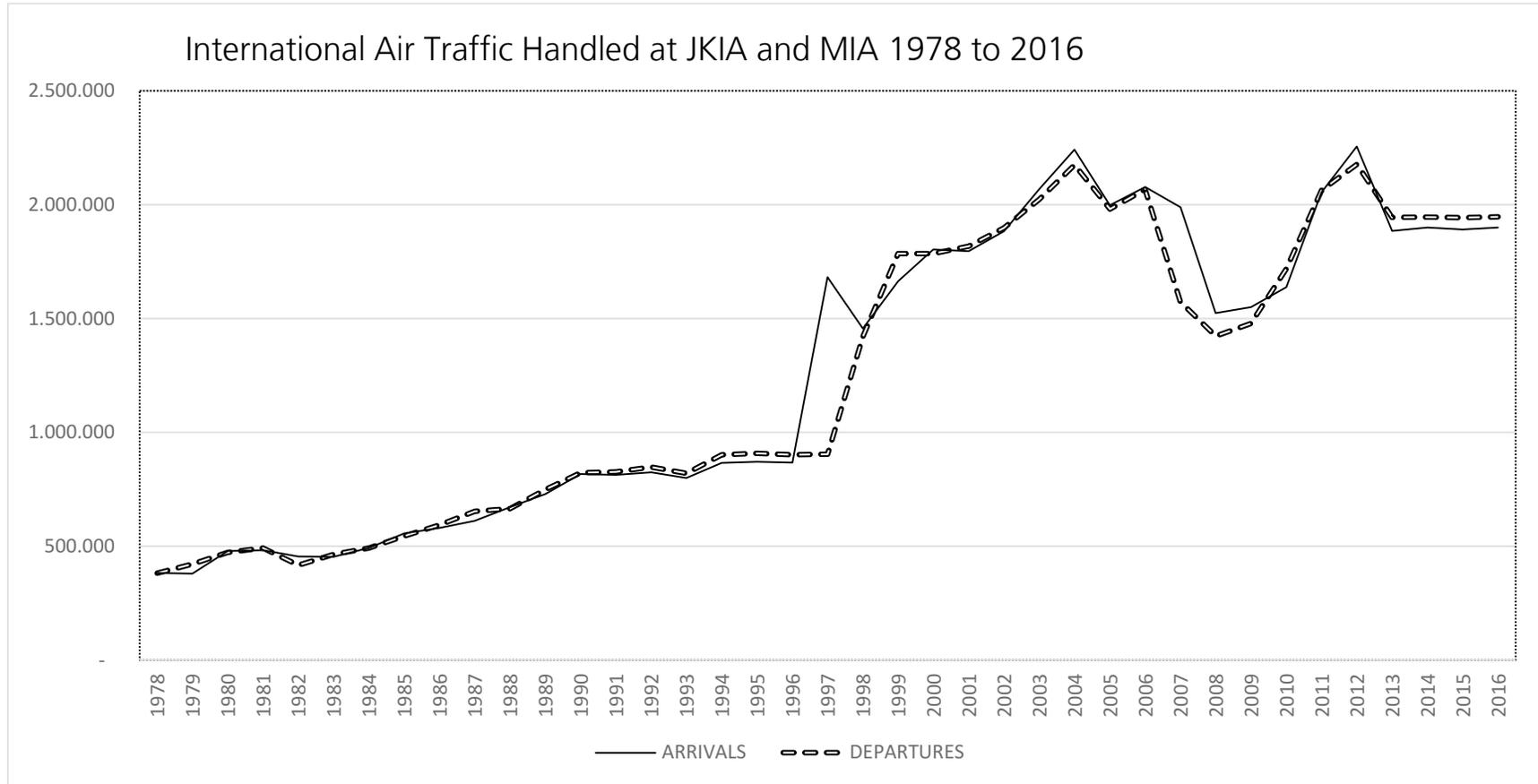
APPENDICES

Appendix 1: Africa Tourism Report: Top 20 Tourism Earners (by Total Contribution to GDP) In Africa, 2014

Country	GDP contribution US\$ Billions			Employment Contribution		Investments US \$ Billions	Arrivals
	Direct	Total	% Total	Direct	Total		
Africa	74.7504	170.7	8.5	8,352,801	19,698,000	26.73	65,311,000
Morocco	8.6	19.1	17.9	775,500	1,740,500	3.8	10,282,000
Egypt	16.5	36.0	12.8	1,322,700	2,944,100	4.3	9,628,000
South Africa	10.5	32.9	9.4	679,500	1,497,500	5.6	9,549,000
Tunisia	3.6	7.4	15.2	230,500	473,000	0.8	6,069,000
Algeria	7.9	15.2	6.7	332,500	660,000	2.0	3,116,400
Kenya	2.5	6.4	10.5	206,500	543,500	0.8	1,148,690
Tanzania	1.8	5.1	14.0	467,000	1,337,000	1.1	1,199,120
Ethiopia	2.1	4.7	9.3	979,000	2,291,500	0.6	676,598
Mauritius	1.4	3.3	25.5	60,200	134,000	0.2	1,039,000
Ghana	1.1	2.6	6.7	122,000	298,500	0.2	877,825
Uganda	1.1	2.5	9.9	247,100	592,700	0.3	1,174,428
Cameroon	0.9	1.9	6.2	124,000	281,000	0.2	574,128
Senegal	0.8	1.8	11.3	132,700	305,900	0.1	956,556
Botswana	0.7	1.8	8.5	32,000	69,500	0.2	2,585,280
Namibia	0.3	1.7	14.9	24,000	102,300	0.4	1,078,074
Zambia	0.7	1.5	6.1	29,300	83,300	0.1	975,611
Zimbabwe	0.7	1.4	10.4	181,000	426,200	0.1	1,880,000
Mozambique	0.5	1.1	7.0	262,500	710,500	0.2	2,052,361
Rwanda	0.3	0.7	9.1	66,000	176,200	0.2	964,264
Swaziland	0.1	0.1	4.1	5,200	12,300	0.0	1,111,334

Source: UNWTO, 2015

Appendix 2: Air Traffic Handled at Jomo Kenyatta International Airport and Mombasa International Airport 1978 to 2016



Appendix 3: Data Analysis

Table 1: Age Profile

		Frequency	Percent
Valid	18 to 24 years	32	12.7
	25 to 33 years	87	34.7
	34 to 42 years	64	25.5
	43 to 51 years	32	12.7
	52 to 60 years	14	5.6
	61 years and above	7	2.8
	Total	236	94.0
Total	251	100.0	

Table 2: Nationality of Respondents

		Frequency	Percent
Valid	Sub-Saharan Africa	156	62.2
	East Asia and Pacific	4	1.6
	Europe and Central Asia	20	8.0
	Latin America and the Caribbean	3	1.2
	Middle East and North Africa	4	1.6
	North America	10	4.0
	South Asia	20	8.0
	Total	217	86.5
	Total	251	100.0

Table 3: Purpose of trip

Purpose of Trip

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Business/Professional	138	55.0	58.2	58.2
	Leisure/Personal	99	39.4	41.8	100.0
	Total	237	94.4	100.0	
Missing	System	14	5.6		
Total		251	100.0		

Table 4: Overall Level of Satisfaction with the Airport

Ranking of JKIA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2	.8	.9	.9
	1	3	1.2	1.4	2.3
	2	2	.8	.9	3.2
	3	6	2.4	2.8	6.0
	4	5	2.0	2.3	8.3
	5	16	6.4	7.3	15.6
	6	34	13.5	15.6	31.2
	7	52	20.7	23.9	55.0
	8	48	19.1	22.0	77.1
	9	30	12.0	13.8	90.8
	10	20	8.0	9.2	100.0
	Total	218	86.9	100.0	
Missing	System	33	13.1		
Total		251	100.0		

Table 5: ANOVA for Communication Differences between Nationalities

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Communication – open	Between Groups	17.596	6	2.933	2.926	.009
	Within Groups	198.482	198	1.002		
	Total	216.078	204			
Communication - Security Procedures	Between Groups	16.464	6	2.744	2.501	.024
	Within Groups	215.083	196	1.097		
	Total	231.547	202			
Communication - Reasonable Explanation	Between Groups	14.039	6	2.340	2.549	.021
	Within Groups	178.061	194	.918		
	Total	192.100	200			
Communication – Timely	Between Groups	16.922	6	2.820	2.651	.017
	Within Groups	207.498	195	1.064		
	Total	224.421	201			

Table 6: ANOVA for Gender

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Evaluation of security procedure - More Hassle	Between Groups	4.093	5	.819	.601	.699
	Within Groups	288.696	212	1.362		
	Total	292.789	217			
Evaluation of security procedure - Enhanced	Between Groups	.754	5	.151	.235	.947
	Within Groups	130.557	203	.643		
	Total	131.311	208			
Evaluation of security procedure - Increased Safety	Between Groups	3.042	5	.608	.796	.553
	Within Groups	162.748	213	.764		
	Total	165.790	218			
Evaluation of security procedure - Worth the hassle	Between Groups	2.398	5	.480	.546	.741
	Within Groups	185.270	211	.878		
	Total	187.668	216			
Evaluation of security procedure - Equal hassle	Between Groups	2.258	5	.452	.417	.837
	Within Groups	226.300	209	1.083		
	Total	228.558	214			

Table 7: ANOVA Nationalities perception of the Security Process

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Evaluation of security procedure- Adequate	Between Groups	15.124	6	2.521	2.342	.033
	Within Groups	216.372	201	1.076		
	Total	231.495	207			
Evaluation of security procedure- Fair	Between Groups	6.766	6	1.128	1.390	.220
	Within Groups	157.334	194	.811		
	Total	164.100	200			
Evaluation of security procedure- Consistent	Between Groups	13.167	6	2.194	3.262	.004
	Within Groups	130.515	194	.673		
	Total	143.682	200			
Evaluation of security procedure- Unbiased	Between Groups	7.037	6	1.173	.902	.495
	Within Groups	237.937	183	1.300		
	Total	244.974	189			
Evaluation of security procedure - Courteous	Between Groups	5.668	6	.945	1.179	.319
	Within Groups	150.670	188	.801		
	Total	156.338	194			
Evaluation of security procedure - Respectful	Between Groups	12.350	6	2.058	3.491	.003
	Within Groups	114.376	194	.590		
	Total	126.726	200			
Evaluation of security procedure - Professional	Between Groups	3.708	6	.618	1.002	.425
	Within Groups	119.047	193	.617		
	Total	122.755	199			
Evaluation of security procedure – Appeals	Between Groups	3.200	6	.533	.423	.863
	Within Groups	246.033	195	1.262		
	Total	249.233	201			

Table 8: ANOVA for Different Nationalities

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Evaluation of security procedure - More Hassle	Between Groups	18.407	6	3.068	2.408	.029
	Within Groups	249.692	196	1.274		
	Total	268.099	202			
Evaluation of security procedure - Enhanced	Between Groups	4.018	6	.670	1.095	.367
	Within Groups	115.549	189	.611		
	Total	119.566	195			
Evaluation of security procedure - Increased Safety	Between Groups	9.135	6	1.523	1.998	.068
	Within Groups	150.095	197	.762		
	Total	159.230	203			
Evaluation of security procedure - Worth the hassle	Between Groups	4.195	6	.699	.881	.510
	Within Groups	154.741	195	.794		
	Total	158.936	201			
Evaluation of security procedure - Equal hassle	Between Groups	2.975	6	.496	.447	.846
	Within Groups	215.214	194	1.109		
	Total	218.189	200			

Table 9: ANOVA for Age

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Evaluation of security procedure - More Hassle	Between Groups	4.093	5	.819	.601	.699
	Within Groups	288.696	212	1.362		
	Total	292.789	217			
Evaluation of security procedure - Enhanced	Between Groups	.754	5	.151	.235	.947
	Within Groups	130.557	203	.643		
	Total	131.311	208			
Evaluation of security procedure - Increased Safety	Between Groups	3.042	5	.608	.796	.553
	Within Groups	162.748	213	.764		
	Total	165.790	218			
Evaluation of security procedure - Worth the hassle	Between Groups	2.398	5	.480	.546	.741
	Within Groups	185.270	211	.878		
	Total	187.668	216			
Evaluation of security procedure - Equal hassle	Between Groups	2.258	5	.452	.417	.837
	Within Groups	226.300	209	1.083		
	Total	228.558	214			

Table 10: ANOVA for reason for travel

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Evaluation of security procedure - More Hassle	Between Groups	.021	1	.021	.016	.900
	Within Groups	282.604	214	1.321		
	Total	282.625	215			
Evaluation of security procedure - Enhanced	Between Groups	.013	1	.013	.020	.887
	Within Groups	134.025	207	.647		
	Total	134.038	208			
Evaluation of security procedure - Increased Safety	Between Groups	.000	1	.000	.000	.988
	Within Groups	160.968	215	.749		
	Total	160.968	216			
Evaluation of security procedure - Worth the hassle	Between Groups	1.116	1	1.116	1.317	.252
	Within Groups	180.466	213	.847		
	Total	181.581	214			
Evaluation of security procedure - Equal hassle	Between Groups	2.145	1	2.145	2.054	.153
	Within Groups	220.343	211	1.044		
	Total	222.488	212			

Social capital and SME's performance in the Accra Metropolis, Ghana

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Abstract

This study sought to examine the relationship between the components of SMEs social capital and firm performance. Using the social capital theory and the resource-based view as the theoretical foundations and census, 1,532 SMEs were selected in the Accra Metropolis for the study. Empirical results from 717 SMEs, utilising the hierarchical linear regression model, revealed that owner/manger's network relationships are beneficial to the firm depending on when the relationships are closed or opened. Moreover, the study found that social capital has a significant impact on the sales and market performance of small and medium-sized enterprises. The results also brought to the fore the fact that most social networks of SME entrepreneurs are family, friends and relatives, which most times can only be used for expressive purposes and not for instrumental gain. The practical implications of the results are also discussed.

1. Introduction

Researchers have argued that small enterprises without large resources can mobilize social networks, since the hindrances to using such networks are minimal (Singh, 2010). This is because, according to the Resource Based View (RBV), the assets to be gained from such resources make it simpler for an enterprise to enlarge its coverage and increase its core activities (Aragon-Sanchez & Sanchez-Marin, 2005). These core objectives can be achieved by selling existing products in existing markets or introducing an innovation to an existing customer base. SMEs use different sources of information and are linked to distinct networks to gain the information needed to enhance their vision and slowly manage their business settings (Khalili, 2011). Social networks relationships give SMEs the chance to be creative and also be in tune with the economy. The initiation of distinct ways of creativity in SMEs is linked to their various channels of distinct facts, opportunities and cooperative affiliations. Their social ties form a vital part of their marketing strategies (Franco et al., 2016). It is a means of harnessing trust in the connections between the firm and clients as never experienced. As noted by Franco et al. (2016), awareness, trust and goodwill are the most vital benefits of using social networks resources for SMEs to reinforce their market position. Businesses, therefore, see social capital as a resource that can be well managed for building networks (Bosma et al., 2002), where good relationships with individuals and groups can be used to improve access to the market and information needed to enhance market performance (Felicio, Couto & Caiado, n.d.; Cheng-Nam et al., 2007).

One of the main factors limiting the realisation of the full potential of the SMEs sector is inadequate funding (Perreault et al., 2007; Agyapong, 2010; Adjei, 2012). Moreover, banks and other non-bank financial institutions provide limited access to financial resources to SMEs owing to their limited financial capacity and the inability to satisfy the lending criteria. A primary remedy to the problem is SMEs access to social capital (Perreault et al., 2007). Social capital provides opportunities for entrepreneurs to use mutual relationships to access financial and other forms of capital without having to exhibit collateral securities (Khalili, 2011; McLaughlin, 2012; Singh, 2010). With access to social capital, SMEs would be able to maximise their potential (Perreault et al., 2007; Singh, 2010). But this, logically, requires that entrepreneurs acquire adequate knowledge on social capital, its effect on their businesses and how to leverage it. Empirical studies have shown that social capital positively influences business performance among SMEs (Adlešič & Slavec, 2012; Bosma et al. 2002; Cheng-Nam et al., 2007). In the study of Bosma et al. (2002), social capital was found to predict financial performance of small businesses. Similarly, in Cheng-Nam's (2007) research, social capital predicts firm outcomes with regard to the profit or loss derived from investments (ROI). Other studies, like Džunić (2010), Feroni et al. (2012) and Perreault et al. (2007), established favourable gains of social capital on some aspects of performance of small businesses.

In Ghana, the SMEs sector makes the highest contribution to GDP (Adjei, 2012). In the year 2013, the sector alone contributed about 45% of the annual GDP (Sekyi, Nkegbe & Kuunib, 2014). Moreover, the sector provides the highest level of employment in Ghana, with about 90% of Ghana's employment provided by it (Sekyi et al., 2014; Adjei, 2012). This means that the SMEs are the backbone of Ghana's economy. In the face of its outstanding contributions to the economy, it is argued that SMEs are yet to realise their full potential (Agyapong, 2010; Adjei, 2012) due to inadequate resources. Evidence from many studies suggests that creative abilities, as well as social networking and communication activities, can all affect the entrepreneurial outcomes of SMEs (Peter, Zaefarian,

Tavani, Neghabi & Zaefarian, 2014). Unfortunately, entrepreneurs or managers of SMEs in Ghana seem not to be aware of social capital and how they can be mobilised in their social contacts and associations to enhance their performance. Moreover, studies on the use of resources by SMEs, especially social capital and its components, are few in Ghana (Danquah & Wireko, 2014). Thus, the present research argues that social capital embedded in social relations is yet to be assessed from the perspective of social network resources and performance outcomes in the Ghanaian context. This paper, therefore, sought to fill the gap by examining the effects of the components of social capital on firm performance in the Ghanaian context.

The rest of the paper is organised into six sections. The second section discusses the theoretical framework, followed by the methodology in the third section. The analysis, results and discussions and conclusions are explained in the fourth and fifth sections respectively, whilst the sixth section proffers the policy implications for the study.

2. Theoretical Framework

The Resource-based view (RBV) highlights the transformation of valuable resources to achieve firm goals (Barney, 1991). This theory propounds that firms rely on their own tangible and intangible resources to transform their short-term competitive advantage into sustainable competitive advantage (Acedo, Barraso & Galan, 2006). This process requires unique resources, which are neither substitutable nor removable. This approach is different from competitive based approach, which focuses on source of sustainable competitiveness from external environment (Akio, 2005). However, both concepts consider that valuable resources can foster performance greater than average. Accordingly, as an intangible resource, social capital (SC) plays a pivotal role in boosting SME performance (Sciascia, Mazzola, & Chirico, 2012).

Social capital is defined as “resources embedded in one’s social networks, can be accessed or mobilized through ties in the networks” (Lin, 2001). These networks may enable an individual to appropriate or seize another person’s wealth, power or reputation, which can then generate a return for the actor. The perception that social capital is network-based is accepted by most researchers who have contributed to the debate (Castiglione, Van Deth & Wolleb, 2008). This is because social networks are not social capital, but social capital can only be gained from access to the resources inherent in the social relationships. Social capital, thus, helps in identifying the sources of social capital and its benefits. Three principal sources (exogenous variables) for social capital are identified (Lin, 2002): Firstly, the structural position made up of an actor’s position in the hierarchical structure of social stratification, which most social capital network researches refer to as the “the strength-of-position proposition”. Secondly, network locations, comprising of an actor’s location in the networks that exhibit certain features, such as closure or openness, or bridging, as is notably referred to as “the strength-of-tie propositions”. Thirdly, the purpose of action that can be instrumental (for gaining wealth, power, or reputation) or expressive (for maintaining cohesion, solidarity, or well-being) (Castiglione, Van Deth & Wolleb, 2008).

The social capital literature also presents two theoretical perspectives that indicate how social network resources are expected to generate returns (Lin, 1999). Firstly, “accessed social capital” entails the pool of resources inherent in one’s social relationships. The belief is that the richer or greater the resources the richer and greater the benefits.

Accessed social capital predicts the extent of availability of such resources or the degree to which a potential supply of resources proficient in producing returns is obtainable in the social networks of the player. It is an indication of the volume of resources held. An assessment or inventory of resources in the social relations of an actor's accessible or embedded resource reflects such capacity (Lin, 2005; Sen, Suman & Cowley, 2013). The second perspective looks at the usage of the social networks. It is based on the premise that the capital resources that are best utilised will result in better benefits (Lin, 2002; Van Der Gaag & Snijders, 2005). Mobilized social resources reflect the actual use of a specific social network and its resources in the creation or utilization in the marketplace. It requires selecting a particular actor who may have the needed resources depending on the specific objective to be achieved. SMEs without the use of large resources can mobilize social networks, like large firms, since the hindrances to using such networks are minimal.

Social capital has three main features: bonding, bridging and linking social capital (Woolcock & Sweetser, 2002). Bonding (strong ties) social capital has to do with relationships with people who are closely connected to the entrepreneur such as spouses, parents, partners, friends and relatives. At the firm level, strong ties are established when various functional areas of the organization communicate and combine for a unified purpose and intention (Adler & Kwon, 2002). However, bridging social capital (weak ties) is a remote relationship linking persons or manifold community, such as work partners, contacts, persons belonging to diverse communities, previous organizations and past colleagues. Bridging social capital is created by people belonging to communities being able to have relationships with other communities with the intention to gain assistance, access details, and gain solutions to challenges. Thus, weak ties are formed when social networks or relationships help individuals and firms to benefit or make use of external assets, which includes associations and other firms. On the other hand, linking social capital, however, has to do with the relationships and communications with prestigious persons or persons in powerful political positions. This can be other business owners or financial managers. In sum, the strength and quality of the strong ties social capital will determine the strength and quality of weak tie social capital as well as that of the linking social capital (Franco, Haase & Pereira, 2016).

Van Der Gaag and Snijders (2005) also identified four types of social capital based on their sources. The first type, 'prestige and education related social capital', includes resources associated with the 'strength of weak tie proposition' (Lin, 2001): resources of high status persons with higher education, the use of which is mainly considered for instrumental actions. As these resource items are often accessed through acquaintances and friends, they may not singularly refer to effects accomplished through weak ties. More 'entrepreneurial' and influential social capital seems to be located in a second type 'political social capital'. This contains items referring to network members' political party membership, their knowledge about governmental regulations, and financial matters. These are all invaluable skills for 'men and women of the world': individuals who want to arrange their business independently with the help of network members. The third type that can be distinguished is that of 'skills social capital', mainly consisting of communication related activities: reading journals, speaking languages, and working with a PC. The fourth type that can be distinguished is that of 'personal support social capital', mainly consisting of communication related activities: good referencing, advice about family conflicts, help in moving to a new house as well as help in finding a holiday

home for a family member. These various types have been found to influence sales and market share of firms and formed the basis of measuring social capital in this study.

Several empirical studies have confirmed the positive correlation between mobilising the right types of social capital and the increase in enterprise creation, survival and success (Liao & Welsch, 2003). In a research conducted to compare the effect of social capital (networking) between low-growth and high-growth firms in China, it was discovered that growth opportunities were very high for enterprises that had various and deep enterprise relationships, while those without such relationships developed slowly (Zhao & Aram, 1995). At the national level, social capital is one of the important factors in economic development and growth (Putnam, 1993). The specific function of social capital at the national level has to do with information creation and exchange in research, harnessing supporting mercantile and training research and enlargement processes. It is also believed that through social solidarity and public involvement, democratic governance is strengthened, leading to enhanced productivity and clarity in public management, as well as enhanced quality of economic strategies (Westlund, 2006). The World Bank also perceived social capital as a very important development tool in poverty alleviation and the achievement of overall socio-economic development (Eade, 2003). For credit constrained and resource poor individuals, social capital, in the form of microfinance solidarity groups, enables them to overcome their lack of collateral and, thus, access credit with less difficulties (Anderson, Locker & Nugent, 2002). Similarly, social capital formed on the basis of microfinance solidarity groups enables the borrowers to access other forms of capital (Basargekar, 2010). In addition to overcoming a borrower's lack of collateral, social capital also allows individual participants in microfinance programmes to increase their levels of enterprise profits (Gomez & Santor, 2001). Thus, the following hypotheses were developed for testing:

H1a: There is a positive and significant relationship between Prestige Social capital and SMEs market share.

H1b: There is a positive and significant relationship between Political Social capital and SMEs market share.

H1c: There is a positive and significant relationship between Skills Social capital and SMEs market share.

H1d: There is a positive and significant relationship between Personal Support Social capital and SMEs market share.

H2a: There is a positive and significant relationship between Prestige Social capital and SMEs sales turnover.

H2b: There is a positive and significant relationship between Political Social capital and SMEs sales turnover.

H2c: There is a positive and significant relationship between Skills Social capital and SMEs sales turnover.

H2d: There is a positive and significant relationship between Personal Support Social capital and SMEs sales turnover.

3. Methodology

In this study, the objectivist-empiricist stance is applied owing to the hypotheses postulated through the theoretical development. Thus, the quantitative research design was adopted to be able to test the research hypotheses. This approach was preferred because the study's objectives strictly required estimation of effects (Williams, 2007; Allwood, 2012). Similarly, the paper also adopted a cross-sectional design, which researchers (Creswell, Plano, Gutmann & Hanson, 2003; Williams, 2007; Allwood, 2012) have identified as the best method for examining the relationship between variables measured as constructs in the social sciences and over a specific time period. Moreover, the design was preferred because it is popularly agreed that it is the best option for correlational studies (Creswell, 2003; Williams, 2007).

3.1 Population and Sample

The general population of the study was all SMEs in the Accra Metropolis, which were registered at the Registrar General's Department and recognized by Ghana Investment Promotion Council. Hence, the target population for this study was SMEs, which met some selection criteria. These included: (a) the need for the SME to be located in Accra to make access to data less costly and more convenient; (b) every SME must have existed in its market for at least six months, which is a requirement for developing social capital; (c) every SME must have at least one business executive (i.e. actual respondent), who is well educated to effectively write and speak during the data collection; and (d) an SME should have a culture of marketing. These criteria were chosen to be able to collect data on the study's variables. The specific population was reached by ensuring that every individual who met the above criteria was willing and available to respond in the study.

In this study, a census was employed owing to its advantage for quantitative researchers. Basically, using a census enabled the researchers to collect data on all members of the accessible population. A census thus provides the highest chance of reaching the most precise estimates or results that can be inferred to the population. In addition, a census offers the best estimates or results because it eliminates sampling errors and the total number of errors that increase the chance of reaching wrong estimates (Bartlett et al., 2001). By virtue of the researchers' choice of a census in this study, all members of the accessible population were surveyed. Thus, data was collected from 1,532 SMEs, which constituted the accessible population.

3.2 Instrumentation

A structured questionnaire was used to collect data in this study. The questionnaire had three main sections. The first section included the instructions and the researchers' contact information. The demographic and confounding variables were presented in the second section. The third section measured the main variables, which were SMEs performance and social capital.

SMEs performance was measured based on two indicators, namely sales turnover and market share growth (Zulkiffli & Perera, 2011) in the participating SMEs. Social capital was operationalized using four items borrowed from Anderson and Miller (2003) and included a measure of the personal support of SME managers, political support for SMEs, social skills of SMEs managers, and prestige and education. It had thirty-five (35) items and each item was

measured on a five-point Likert scale: strongly disagree to strongly agree. In addition, firm age, firm size, number of owners, and educational level are confounding variables (CVs) in the study. Firm age is a measure of how long the business had been in active operation. Firm size was the number of employees of the firm, both permanent and temporary employees. 'Number of owners' was the number of legal owners of the firm. Educational level is the highest level of formal education of the SME manager or executive.

3.3 Data Collection and Analytical Techniques

As part of the data collection, informed consent forms were sent to all SMEs, which made up the accessible population. Research assistants were hired to do the distribution over a period of three weeks under the supervision of the researchers. During the period of distributing the informed consent forms, each SME was made to indicate a specific date appropriate for the questionnaires to be collected. The questionnaires were then administered in about two months through a similar approach used in distributing the informed consent forms. Those individuals who could not respond immediately were given two weeks to do so. Five more research assistants were hired and made to do the distribution with the five assistants initially tasked to distribute informed consent forms. Of the 1,532 questionnaires distributed, only 892 participants returned the questionnaires. Thus, the response rate was 58%. However, 175 questionnaires were discarded because they contained major response errors. In all, 730 questionnaires, representing about 48% of the total number of questionnaires distributed, were analyzed.

The study employed the SPSS version 21 and AMOS. To examine the theoretical interdependencies among social capital and SMEs performance the data was analyzed using moderated hierarchical regression modelling. This multi-stage hierarchical regression approach helps minimize concerns of endogeneity due to the use of continuous scales on the three constructs (Hamilton & Nickerson, 2003).

4. Analysis and Results

A hierarchical regression was performed to determine the impact of various variables, including demographic variables on the relationship between social capital and SMEs performance. The confounding variables were made up of gender, age of business, owner, education, type of business, locally owned, service and numbers of employees, whilst the main variables, social capital and performance, were added to the model later. The next section discusses the results for each of the tables generated for the two dependent variables market share and sales measuring SME performance and the four components of social capital.

4.1 Market Share

First, the effects of control variables (gender, age of business, owner, education, type of business, locally owned, service and number of employees) on performance were tested in M1 (see Table 1). The results for market share indicated that number of employees made a significant positive impact on market share ($\beta = 0.003$, $p < 0.05$), while gender ($\beta = -0.239$, $p < 0.05$), age of business ($\beta = -0.073$, $p < 0.1$) and service ($\beta = -0.366$, $p < 0.01$) had significant negative impacts on market share. The rest of the control variables had no effect on the relationship between dependent. It was also observed from the R2 value that the control variables account for only 5% of the variance in performance.

Secondly, the main effects of the independent variables were added to the initial model in M2. The results for market share indicated that number of employees made the same significant positive ($\beta = 0.003$, $p < 0.05$) impact on market share, while sole proprietor ($\beta = -0.252$, $p < 0.05$), and locally owned ($\beta = -0.483$, $p < 0.05$) had significant negative impacts on market share. The rest of the control variables had no effect on the relationship. The results further showed a significant increase of 0.08 from the R2 value, resulting in a 13 % variance in performance across the enterprises. Thirdly, the main effect of variable was added to the initial model in M3. The results at this stage indicated that number of employees made a significant positive ($\beta = 0.002$, $p < 0.01$) impact on market share, while sole proprietor ($\beta = -0.246$, $p < 0.05$), and locally owned ($\beta = -0.528$, $p < 0.05$) had significant negative impacts on market share. The rest of the control variables had no effect on the relationship. Furthermore, a significant increase of 0.02 was found from the R2 value, resulting in a 15% variance in enterprises performance.

From the second model, the study found support for H1a where Prestige and Education Social Capital (PESC) was positively and significantly related to market share performance, H1a ($\beta = 0.262$, $p < 0.01$). Similarly, for H1d the estimated standardized coefficients for Personal Support Social Capital H1d ($\beta = 0.269$, $p < 0.01$) also indicated a positive and significant relationship on market share performance, supporting H1d. Also, H1c was supported with estimated standardized coefficients for Skills Social Capital ($\beta = -0.158$, $p < 0.01$), indicating a negative and significant relationship with market share performance.

4.2 Sales Performance

Firstly, the effects of control variables (of gender, age of business, owner, education, type of business, locally owned, service and number of employees) on performance were tested in M1 (see Table 2). The results for market share indicated that number of employees made a significant positive ($\beta = 0.003$, $p < 0.05$) impact on market share, while gender ($\beta = -0.329$, $p < 0.01$), and service ($\beta = -0.3575$, $p < 0.05$) had significant negative impacts on market share. The rest of the control variables had no effect on the relationship between dependent, moderator and independent variables. It was observed from the R2 value that the control variables account for only 6 % of the variance in performance.

Secondly, the main effects of the independent variables were added to the initial model in M2. The results for sale performance indicated that number of employees made the significant positive ($\beta = 0.003$, $p < 0.01$) impact on market share, while service ($\beta = -0.456$, $p < 0.05$), gender ($\beta = -0.218$, $p < 0.05$) and locally owned ($\beta = -0.502$, $p < 0.05$) had significant negative impacts on market share. The rest of the control variables had no effect on the relationship. At this stage, a significant increase of 0.09 was found from the R2 value, resulting in a 15% variance in enterprises performance across. Thirdly, the main effect variable was added to the initial model in M3. The results for sales performance indicated that number of employees ($\beta = 0.002$, $p < 0.01$) made a significant positive impact on market share while service ($\beta = -0.400$, $p < 0.1$), gender ($\beta = -0.203$, $p < 0.05$) and locally owned ($\beta = -0.543$, $p < 0.05$) had significant negative impacts on sales performance. The rest of the control variables had no effect on the relationship. At this stage, a significant increase of 0.01 was found from the R2 value, resulting in a 16% variance in performance across all the enterprises.

The second model supported H2 partially as in H2a where Prestige and Education Social Capital (PESC) was positively and significantly related to sales performance, H2a ($\beta=0.224$, $p < 0.01$). Similarly, for H2d the estimated standardized coefficients for Personal Support Social Capital H1d ($\beta = 0.360$, $p < 0.01$) also indicated a positive and significant relationship on sales performance, supporting H2d. With H2b, however, the estimated standardized coefficients for Political Social Capital H2b ($\beta = -0.046$) indicated a negative but not significant relationship on sales performance. Also, H2c was not supported with estimated standardized coefficients for Skills Social Capital ($\beta = -0.136$, $p < 0.05$), indicating a negative and significant relationship with sales performance.

5. Discussions

The purpose of this study was to examine the sources of social capital and its effects on small and medium-sized enterprises (SMEs) performance (market share). In this research, it was found that SMEs performance (Market share) decreases as access to political social capital and the ability to use it decreases. The negative beta value between Political social capital and SME performance relationship suggests that SMEs do not directly obtain any benefit by having these resources from family and friends alone though this finding wasn't significant. It can be concluded that the actors' social networks did not have the authority, dominance, and potential to contribute any gain that would help the SMEs gain advantages in market share. Also, it can be noted that skills social capital has a significantly inverse relationship with market share. This reflects the fact that having friends and family that can read professional journals, own a car, and can literally write in a foreign language decrease the market share performance. While strong relationships connect persons and individuals and groupings with homogeneous resources, in order to clutch regulative and distinctive aims (what Lin defines as 'expressive' purposes), they are also used for maintaining cohesion, solidarity, or well-being whereas bridging ties may be good at helping contributory objectives, as they generate admission to new types of capital but rely less firmly on participatory norms (Lin, 2001). In comparison, bridging (or inclusive) social resources links actors to more distant acquaintances whose network resources are distinct from that of the actor's and this tends to produce greater identities as well as a wider reciprocity instead of reiterating a small gathering. Putnam (2000) reiterates that close social network relationships is good for coping, while spanning of structural holes is crucial for prospering.

This study also argued broadly that Social capital has a significant effect on SME performance (Sale performance) as this research found a positive and significant relationship between Prestige and Education Social Capital (PESC) and sales performance. The owners/managers with social networks of higher vocational education, secondary school graduates, knowledge of literature and good contacts with media were able to give them access to resources of opportunities and information to be able to increase their sales within the industry. Similarly, it was found that Personal Support Social Capital has a positive and significant relationship with sales performance. It can be assumed that the social networks of the owners and managers of SMEs gave them embedded resources, which helped enhance their sales performance. Once the actors in the entrepreneurs' network know people who can refer them to good job contacts, such contacts can also give them access to good sales references.

The research also found that estimated standardized coefficients for Political Social indicated a negative but not significant relationship on sales performance. Knowing people in a political party or people who have access to government regulations but do not possess enough power and influence can have negative externalities for the owner/manager. This finding is supported by Akwaah (2008), who confirms the negative repercussions of social network relationships with people in political positions. That is, access to these government officials cannot only be deadly, but can also impede on SMEs capacity to aggressively chase new potentials that may have enhanced the productivity. In Ghana, ties with politicians may give an SME a financial resource from a government owned banking firm or the award of a major business contract. However, the SME will have to give a quota of the financial resources to the cause of that political party before the receipt of the loan or the commencement of the contract work. This study also found a negative relationship between Skills Social Capital and sales performance. This finding indicates that SMEs social relations with networks skilled in reading professional journals express themselves in a foreign language, work with a PC are not beneficial to SMEs.

6. Conclusions and Implications

This study used the resource-based view to examine the effects of social capital on the sales and marketing performance of SMEs. Using the hierarchical regression model eight hypotheses were tested. It is concluded that owner/manger's network relationships are beneficial to the firm depending on when the relationships are closed or opened. In addition, most social networks of SME entrepreneurs are family, friends and relatives, which most times can only be used for expressive purposes and not for instrumental gain.

Based on the conclusions, social capital will be a good case for policy intervention by the Ghana government. This is because social network resources are believed to reduce transaction cost as well as give access to financial resources, opportunities and markets that would otherwise not have been available to the SMEs owner/managers. The case for policy intervention in the creation of social capital is a general one. As far as the state is expected to mediate in the allocation of resources such as financial, human and social capital, more basically, in areas such as health or education, social capital can be seen as constituting a tool for policy intervention. If social capital itself can be perceived as a public good, it constitutes a goal of policy. Policies, which help to enforce social networks, can consequently directly enhance the welfare of the wider community.

Secondly, Education offers a distinctly straightforward means of harnessing investments into social capital. The most thorough way for the government to initiate social capital is through education, which helps people strengthen their social skills and engage in shared norms and rules. Education and learning can support habits, skills and values conducive to social co-operation and participation. Practically, the link between education and engagement is well grounded since there is a school of thought that believes social capitals relevance for community development policies and other anti-poverty strategies.

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Appendices:

Table 1: Regression Estimates of Market Share Performance

DV: Market Share	(1)	(2)	(3)	(4)
Gender (Male=1)	-0.239 (0.098) **	-0.120 (0.092)	-0.106 (0.092)	-0.088 (0.091)
Owner (=1)	-0.096 (0.120)	-0.070 (0.114)	-0.095 (0.114)	-0.105 (0.113)
Age of Business (in years)	-0.073 (0.041)*	-0.005 (0.041)	0.006 (0.041)	0.013 (0.042)
SHS + (=1)	0.115 (0.126)	-0.063 (0.123)	-0.085 (0.123)	-0.072 (0.120)
Sole Proprietorship (=1)	-0.199 (0.123)	-0.252 (0.115)**	-0.246 (0.115)**	-0.208 (0.115)*
Locally owned (=1)	-0.333 (0.220)	-0.483 (0.211)**	-0.528 (0.208)**	-0.681 (0.220)***
Service (=1)	-0.366 (0.217)*	-0.299 (0.186)	-0.239 (0.182)	-0.133 (0.182)
Number of Employees	0.003 (0.001)**	0.003 (0.001)***	0.002 (0.001)***	0.002 (0.001)***
Prestige and Education		0.262	0.270	0.249
Social Capital (PESC)		(0.052)***	(0.052)***	(0.053)***
Political Social Capital (PSC)		-0.051 (0.047)	-0.062 (0.047)	-0.029 (0.055)
Skills Social Capital (SSC)		-0.158 (0.055)***	-0.160 (0.055)***	-0.155 (0.054)***
Personal Support		0.269	0.186	0.158
Social Capital (PSSC)		(0.052)***	(0.057)***	(0.056)***
Constant	4.858 (0.316)***	4.847 (0.293)***	4.785 (0.284)***	4.855 (0.292)***
R²	0.05	0.13	0.15	0.18
N	665	630	630	630

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Beta values not in parentheses while robust standard errors are in parentheses

Table 2: Regression Estimates of Sales Performance

DV: Sales Performance	(1)	(2)	(3)	(4)
Gender (Male=1)	-0.329 (0.104)***	-0.218 (0.100)**	-0.203 (0.100)**	-0.181 (0.099)*
Owner (=1)	-0.135 (0.123)	-0.113 (0.118)	-0.137 (0.117)	-0.138 (0.118)
Age of Business (in years)	-0.040 (0.045)	0.046 (0.045)	0.057 (0.045)	0.060 (0.045)
SHS + (=1)	0.194 (0.141)	-0.001 (0.137)	-0.021 (0.137)	-0.005 (0.136)
Sole Proprietorship (=1)	-0.129 (0.140)	-0.188 (0.131)	-0.183 (0.131)	-0.147 (0.132)
Locally owned (=1)	-0.382 (0.248)	-0.502 (0.230)**	-0.543 (0.234)**	-0.694 (0.256)***
Service (=1)	-0.575 (0.255)**	-0.456 (0.216)**	-0.400 (0.210)*	-0.304 (0.206)
Number of Employees	0.003 (0.001)**	0.003 (0.001)***	0.002 (0.001)***	0.002 (0.001)***
Prestige and Education Social Capital (PESC)		0.224 (0.052)***	0.232 (0.053)***	0.207 (0.057)***
Political Social Capital (PSC)		-0.046 (0.048)	-0.056 (0.048)	-0.014 (0.056)
Skills Social Capital (SSC)		-0.136 (0.055)**	-0.137 (0.055)**	-0.133 (0.054)**
Personal Support Social Capital (PSSC)		0.360 (0.055)***	0.283 (0.060)***	0.261 (0.059)***
Constant	4.892 (0.378)***	4.762 (0.342)***	4.703 (0.339)***	4.785 (0.349)***
R²	0.06	0.15	0.16	0.19
N	665	630	630	630

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Beta values not in parentheses while robust standard errors are in parentheses

Kenyan Universities Contribution Towards

the President's "Big Four" Agenda:

The Case of Mount Kenya University's Graduate Enterprise Academy

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Abstract

Kenya, like all other developing countries in the world, is faced with the task of working strategically towards the achievement of the Sustained Development Goals (SDGs) 2030. These goals whose due date of accomplishment coincides with those of the national development blueprint, namely, the Kenya Vision 2030, have become a major focus of attention in the country. Conferences, workshops, and seminars are organized throughout the country on regular bases by joint multiplicity of organizations to address modalities of ensuring a timely achievement of SDGs in the country. Universities either individually or jointly are working towards this same target. More specifically, there are great areas of concern or priority areas that the country is focusing on as a strategic focus towards the achievement of the Kenya Vision 2030 and SDGs 2030. These strategic areas of focus have been isolated and declared by the President of the Republic of Kenya, His Excellency Uhuru Kenyatta, as the country's "big four priority areas", namely, affordable housing, affordable health care, food security, and manufacturing as a grandiose effort towards achievement of the SDGs, Kenya Vision 2030 as well as job and wealth creation. Similarly, Mount Kenya University's top management established the Graduate Enterprise Academy (GEA) in 2013 under the direct Patronage of the university's Founder with the primary aim of assisting graduates to be job and wealth creators rather than being job seekers. So far, over twenty start-ups are running throughout the country under Graduate Enterprise Academy (GEA). Incidentally, although the Graduate Enterprise Academy's diverse areas of focus extend beyond the President of Kenya's "Big Four" to include ICT and creative arts, among others, there are justifiable cases to indicate that GEA's activities are also in support of the national "Big Four" agenda. This paper gives an exposition of different start-ups under MKU's Graduate Enterprise Academy and are show-cased as evidence of MKU's support towards the achievement of the national "Big Four" agenda. The paper covers a part of an ongoing program through desk-top analyses of reports, with an objective of show-casing MKU's contribution to the national agenda through the Graduate Enterprise Academy for possible scale - up.

Key Terms: Kenya Vision 2030, Sustainable Development Goals 2030, "Big Four" agenda, job and wealth creation.

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Introduction

The Republic of Kenya is a sovereign, commonwealth country that lies astride the equator with its southern part lying on the south of equator and its northern part to the north of the equator. Its south - eastern side borders the Indian Ocean and the whole country is in the eastern part of Africa and at the lower side of the horn of Africa (World Population Review, 2018). It has a total area of 580,000 square kilometers with a steadily growing population which totals to just about 50 million persons where almost three quarters of this population is under the age of 30 years of age. The country is considered as one of the most diverse lands in the world in terms of its geography and the culture of its people (World Population Review, 2018).

The Republic of Kenya launched a development blue print in the name of the Kenya Vision 2030 in 2008. The Kenya Vision 2030 pillars resonate very closely to the sustainable Goals 2030 which the country also aspires to achieve side by side with the Vision 2030. As the country moves on towards 2030, a score card is well observed by various stakeholders about the grandiose performance towards achievement of the said targets or non-achievement of the same. For instance, by 2018, ten years after the launch of the vision statement, the milestones achieved could very well be observed all over the country. These include construction of super highways and railway infrastructure, constitutional amendment, community empowerment, and educational reforms among many other development milestones (Kenya Vision 2030 Newsletter No. 001, - Undated). Unfortunately, at the same time, even as the country observed its tenth anniversary since the launch of the “magical” vision blueprint, there was still a lot more that remained to be done if a balanced score of a hundred per cent of this very ambitious, national development blue print will ever be achieved within the stipulated time. Needless to say, despite a number of handicaps at a national level that need to be cleared, the two successive governments of Mwai Kibaki who launched the blueprint in 2008, and the subsequent one headed by President Uhuru Kenyatta who succeeded Mwai Kibaki, have shown tremendous commitment to leave no stone unturned in ensuring a timely delivery of the national Vision 2030 and by extension or concurrently the Sustainable Development Goals to Kenyans (Voluntary National Review, 2017; Aminga, 2018).

The Kenya Vision 2030 vis-a-vis President's Big Four Agenda

The Kenya Vision 2030 has 3 main pillars, namely, economic pillar, social pillar and political pillar. Since its launch in 2008, the achievement of the Kenya Vision 2030 has so far been strategically affected through a series of Mid-Term Plans (MTPs) distinguished as a MTP I (2008 to 2012), MTP II (2013 – 2017) and MTP III (2018 to 2022). It is of importance to note that, the formulation of Kenya Vision 2030 was informed and motivated by a collective desire by all stakeholders to have Kenya transformed into a middle-income country with a high quality of life for all Kenyans. The target development also includes a national-wide provision with a clean and secure environment for all Kenyans to live in (Kenya Vision 2030 Newsletter No. 001, - Undated).

In order to channel more national resources and efforts towards achievement of the Kenya Vision 2030, (and also the SDG 2030) the forth President of Kenya, His Excellency Uhuru Kenyatta, upon his ascent to power, for the second and supposedly last term in 2017, promised to deliver to Kenyans a results-driven governance. He promised to prioritize the achievement of four main development milestones derived from the Kenya Vision 2010 blue print and

found critically necessary for fast-tracking. More specifically, according to Aminga (2018) and various available reports and write ups, the President's Big Four Agenda aims at;

- a. Boosting the manufacturing industry in order to create jobs.
- b. Contributing towards food security,
- c. Provision of affordable housing to all, as well as,
- d. Provision of a universal healthcare.

These four targets are popularly referred to as the President's Big Four Agenda and are to be delivered to Kenyans by 2022. To a large extent, the President's Big Four Agenda is a kind of a mid-term plan that should directly contribute towards the achievement of the Kenya Vision 2030. The President's Big Four Agenda, as it is called, has attracted support from different parts of the world (Aminga, 2018). These include among many others, the USA as implied by a one-on-one meeting between President Uhuru and President Donald Trump at the White House, Washington DC, on 27th August, 2018. President Uhuru's visit to the US seemed to have attracted investors to Kenya on the Big Four Agenda's related investments.

Different organizations within the country are expected to align their development targets along the President's Big Four Agenda. For instance, the Kenya Commercial Bank, which is the largest bank in which the government has an extensive ownership of shares, has inclined its targets towards the President's Big Four Agenda by sponsoring youth empowering programmes in agribusiness. The efforts of achieving the Big Four agenda must also be aligned with the realities on the ground in Kenya. For instance, according to Mwangi Jane (2018), the food security target can also take advantage of the dynamism of the youth and lure them into agriculture. In order to motivate the youth into agriculture and other, innovative and concerted efforts from both the public and private sectors are needed. Expectedly, in a synergetic approach, the private and public sectors could repackage farming or agriculture in the best ways that are attractive to the youth. This may include addressing other related issues such as lack of access to finance, inaccessible technology and land ownership challenges. Quoting the words of Alberto (2018), if agribusiness is well promoted, it will be a sure way of employment and wealth creation especially among the youth. It is anticipated that, the Big Four Agenda will very positively affect all regions of Kenya including those that have been apparently disadvantaged such as the Arid and Semi-Arid Lands (ASALS) (Hassan, 2018). Land subdivisions and land ownership issues have also been identified as challenges in achievement of food security for the Big Four Agenda (Ikanda, 2018, Caritas 2018). According to Ikanda (2018), small farm sizes which have resulted after many sub-divisions over the years make it difficult for adoption of new farming technology. These include incapacity to produce adequate seeds as well as challenges in farm tilling methods.

Likewise, concerted efforts are required from universities, private and public sector as well as from Non-Governmental Organizations (NGOs) and activists in ensuring the success of the Presidential Big Four Agenda. Through the popular quad-helix model of service delivery, the multiplicity of all these forces in action will potentially lead to a definite success in achieving the Big Four Agenda in Kenya. To confirm on the need for universities to join in the promotion of the Big Four Agenda, President Uhuru Kenyatta called upon the universities in Kenya to join other stake holders in promoting the Big Four Agenda. According to the President's Strategic Communications Unit - PSCU (2018), the President made this pronouncement in December 2018 during a graduation ceremony at one of the Kenyan Public

Universities in Siaya County, where he challenged academic and research institutions to play a leading role in the achievement of the Big Four Agenda through research, innovation and technology interventions. “I would like to see universities drive the national research agenda along our priority areas. I also expect universities to deliberately pursue linkages with industry, where research findings can be commercialized and offer practical solutions to our national needs,” the President said (President’s Strategic Communications Unit – PSCU, 2018).

Given the aforementioned background and considering that Mount Kenya University (MKU) in 2013 founded the Graduate Enterprise Academy (GEA) as a facility through which the university would nurture the youth’s owned businesses and develop them to the next level, this paper show cases how the President’s Big Four Agenda has been advanced at MKU’s Graduate Enterprise Academy. As the country’s private and public sectors continue to work on the President’s Big Four Agenda, it is vital to reflect on MKU’s efforts and synergies in contributing towards the achievement of the said five year- long national agenda as presented in this paper.

About MKU’s Graduate Enterprise Academy (GEA) as a pace setter

MKU’s Graduate Enterprise Academy (GEA) was established by the Founder of the University, who is also the Chair of MKU’s Board of Directors, Professor (Dr) Simon Gicharu in 2013 as a forum for assisting the Kenyan youthful graduates to have a mindset change from being job seekers to being job creators. So far, 24 young people are running their businesses in different parts of the country under the mentoring and continuous nurturing of the Graduate Enterprise Academy at MKU. The GEA’s mission is: “To identify, nurture and mature youth entrepreneurs across Africa” (Gicharu, 2016).

The Graduate Enterprise Academy (GEA) was instituted by MKU in 2013 as a community outreach forum whose activities are primarily geared towards youth empowerment and edification through entrepreneurial and leadership-oriented training. The impact of GEA has been phenomenal. This is due to the carefully selected and highly potent training which is blended from various renowned programs derived from across the globe. It is offered by a well selected team of qualified and experienced practitioners and professors (Gicharu, 2016).

The GEA program at MKU has gone through progressive evolutionally changes since inception which have been informed by theories of entrepreneurial promotion (Gartner & Reynolds 2004), community dynamics as well as viability options (Wanderi, 2017). So far, two cohorts have been commissioned whose beneficiaries are running their businesses across the country. As a business accelerator, GEA embraces the Public – Private Partnerships strategy to ensure a quad-helix model. Exhibitions, face – to – face and digital mentoring, networking and monitoring and evaluations are key hallmarks of the GEA strategic operations.

Figure 15: Mentored by the best: A mentoring session of the Graduate Enterprise Academy (GEA) Cohort Two beneficiaries by the GEA Patron and Founder of Mount Kenya University, Prof. Simon Gicharu, at MKU, Thika Campus. Some trainers and MKU staff are also seen in attendance.



The Spread of GEA nurtured enterprises among the Big Four Agenda

A report submitted to the Mount Kenya University (MKU) Council in June 2018 on the impact of the Graduate Enterprise Academy to the local community shows the GEA’s twenty-four enterprises, which are nurtured across the country (MKU Council Report, 2018). The said Council Report covered the same period and the year (2018) when this paper was presented at Bonn-Rhein-Sieg University of Applied Sciences (Germany). Additionally, the Graduate Enterprise Academy at MKU in the same year (2018) collaborated with the muData Analytics Institute of Germany in conducting data science training sessions to Small and Medium Enterprises (SMEs) at five counties in Kenya, namely, Nairobi, Nyeri, Nakuru, Eldoret and Mombasa. Some of the SMEs who were trained were within the coverage of the President’s Big Four Agenda as shown here below (Wanderi & Mwangi, 2019). Therefore, from that MKU 2018 Council Report, ten (10) out of 24 (41.5%) of the GEA enterprises are seen to fall within the President’s Big Four Agenda as shown in the following table. An additional analysis is made on the same table of the enterprises mentored through the 2018 data science for SMEs training project that were within the President’s Big Four agenda.

Table 1: A table showing the 10 of GEA Cohort I and II enterprises and the GEA - muData Institute’s Collaboration which are oriented to the President’s Big Four Agenda (Adapted from MKU Council Report, 2018 and GEA – muData Institute Collaboration Report, 2018).

Table 24: A table showing the 10 of GEA Cohort I and II enterprises and the GEA - muData Institute's Collaboration which are oriented to the President's Big Four Agenda (Adapted from MKU Council Report, 2018 and GEA – muData Institute Collaboration Report, 2018).

SN	Enterprise/Business Location	Type of business	Impact to the community along the Kenya's Big Four Agenda
1.	Friends of Farmers initiative located in Chuka County	Agrovet and small scale manufacturing of animal feeds	Helping livestock farmers to improve production for a better input towards food security
2.	Cruise International Limited Kericho County	Building & construction	Construction with affordable bricks. A vital input towards Presidents Agenda on provision of affordable housing
3.	Mars Property Developers Kitui County	Property agent	Solving the problem of housing in the community. A vital input towards Presidents big 4 Agenda.
4.	Benplast Investments Kitui	Water packaging	Clean and healthy water that is purified and hygienically packed for Food security
5.	Wynnestart Rabbit Hub Kirinyaga	Rabbit rearing	A rare type of business within the community that seeks to also encourage the community on the importance of rabbit rearing contributing to food security
6.	Umoja Stores Maua Meru	Distribution of cereals	Sales of cereals across boarders hence solving the problem of scarcity. A vital input towards Presidents big 4 Agenda on food security as a marketing outlet.
7.	Gibson's Grill and Caterers Nairobi	Catering services	Food and refreshment business for events allowing the hosts to enjoy their events serving as a vital marketing outlet on food security.
8.	TunaCare Health Clinic Kiambu County	Health service	Offers health services to the community with specialized attention to the patients
9.	Karibu Furniture Ltd Thika	Sale of furniture	Sale of modern furniture to the client. Involves online marketing of the items. Promotes small scale industries for timber products assemblage
10.	Umoja Medical Services Thika	Health service	Offering affordable health serves to a nearby slum where most of the people cannot afford specialized treatment
11.	GEA – muDAI Institute of Germany collaborative training on data science to Small and Medium	Out of 64 SMEs that were trained at 5 counties, 15 (23.5%) of them were within the	These included; ✓ Food security – 8 (12.5%) ✓ Manufacturing – 4 (6.3%) ✓ Health – 2 (3.12%)

	Enterprises (SMEs) held in 2018.	presidents big four agenda	✓ Housing – 1 (1.6%)
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As a way of showing the above mentioned GEA enterprises; one of them is presented here below in greater details for possible replication as presented by Wynnestart Business Plan (2018).

An Exhibition of the Wynnestart Rabbit Hub

Figure 16: Wynnestart's Rabbit Hub (Unregistered) Trade Mark



The illustration shown above is the Wynnestart Business Hub's trading impression. Wynnestart's other details are as follows;

Business Name: WYNNESTART RABBIT HUB.
 Address: P. O. Box 11,
 WANG'URU KIRINYAGA.
 Telephone: +254724120474
 Presenter: ESTHER WAINOI NDIGA (Proprietor)
 Email: estherwynnes@yahoo.com

Wynnestart's Founding and Competitive Advantage

The idea of starting Wynnestart Rabbit hub came in 2015 after realizing that there is a high demand for white meat within Kirinyaga County and surrounding areas as it is considered healthy than red meat. There was also a rising demand for bunnies by Rabbit World Company which buys grown-up rabbits and processes rabbit meat products for sale. The business is in the agro-business industry and it involves rabbit keeping. The owner of the business is Esther Wainoi Ndiga and the amount that was used to start the business is Ksh 300,000 (USD3,000). The main objective of this business is to maximize profits, create awareness on the benefits of consuming white meat from rabbit and create employment.

The business is owned by Esther Wainoi Ndiga who is the main sponsor under Wynnestart Enterprises and partly on a loan from a parent. The rabbit keeping business started in early January 2015 and was later on incorporated as a registered business in March 2016 as shown on Appendix A. In September 2015 the proprietor signed a contract with the Rabbit World Company (See Appendix B) who supplied the business with eight (8) does and one (1) buck

at a negotiated cost of ksh4500-5000 (USD 45 – 50) each. This was after extensive research about rabbits rearing and the market of rabbits in Kenya. From the research, the proprietor discovered that there is a high demand for bunnies and rabbit meat since many people are changing from consumption of red meat to white meat. This was a great opportunity for Wynnestart especially after acquiring the knowledge that the business is not yet saturated in the country. From the plan of events, Wynnestart started by putting up rabbit cages. It was after this that the proprietor signed a contract with the Rabbit World Company that supplies does and bucks to farmers and later harvest the bunnies for them after four to five months at an agreed price. The business has two employees who are paid weekly. The employees maintain the cleanliness of the cages, feed the rabbits and keep their records, which are very important chores in the venture. A doe can give birth to around 3-10 bunnies at a time. The gestation period of a rabbit is one month. Multiple births and less work in maintaining a rabbit makes this business a good venture. Additionally, the prospects of this business venture are increased by the low mortality rate of rabbits; they are easy to feed as they eat different foods like hay, rabbit pellets and greens that are affordable and readily available within the neighborhoods. Above it all, rabbits are not prone to diseases as long the cleanliness is maintained in their cages. Cleanliness is the secret to having healthy and disease-free rabbits.

At its highest point of operation, the venture had eight (8) does; one (1) buck and forty (40) bunnies and this number has been varying from time to time due to various reasons. The first lot of thirty (30) bunnies which were 4- 5 months old was harvested in March 2016. With that momentum of the births, Winnestarts' biggest goal is to make this business a multimillion business with a population of 500- 1000 rabbits. This will make it possible to produce rabbit related products like samosas (a local delicacy), sausages, packed meat for both local market and export. With that dream of expansion, capital has been a major consideration in the business.

The business is expected to have a competitive edge over its competitors by offering consumers greater value for their money, high quality meat at affordable prices thus satisfying the customers' needs. The business mostly targets the residents of Kirinyaga County and the surrounding counties. These consumers are reached-out through vigorous strategic marketing and promotion / advertisement campaigns through radio, and posters within the town. However, the most effective promotion campaign undertaken is by offering quality products at a lower price. Compared to its potential competitors, this also includes conducting promotion campaigns in various places to introduce its products and also make awareness to potential customers about the existence of rabbits and rabbit products in the local market.

Winnestart's Vision, Mission Statement and Core values

Vision: To make Wynnesstart Rabbit hub a multimillion enterprise in Kenya with a population of 500-1000 rabbits, supplying rabbit and rabbits-related products for both local and export markets.

Mission: To make rabbits, and rabbit products readily available in the Kenyan market by creating awareness on the benefits of consumption of white meat.

Core values

- Reliability
- Sustainability
- Innovation and excellence

The business objectives are as follows:

1. To make rabbit bunnies and rabbit products readily available in the market in Kirinyaga county and surrounding counties.
2. To create more job opportunities especially for the many jobless youths.
3. To promote the consumption of white meat in the country:
4. To expand the size of the business and open branches in the other towns in Kenya:
5. To produce rabbit products for export.

Wynnestart's location

Wynnestart is located at Mwea constituency in Kirinyaga County along the Embu - Nairobi highway. The nearest town to the business is Kimbimbi town where one branches on the left from the highway on the way from Nairobi and travels for about 2km along the corrugated road. The village at which the business is located is called Kianganga at the late Mr. Ndiga's farm.

Wynnestart's Management Team, Operational Plan and Future Plan

The business is a sole proprietorship headed by Esther ndiga as the Executive Director. The business also has two employees who are at the ground, in charge of feeding the rabbits and maintaining cleanliness in the cages. The main objective of the management team is to maximize profit, wealth maximization, welfare of employees, interest of consumers, fair dealing with suppliers and welfare of society. Wynnestart rabbit hub will in future venture towards the increase in the number of bunnies; therefore the business will need more facilities to meet the projected growth as follows:

- a. 15-30 additional cages to reduce the congestion in the available cages
- b. 20 serving dishes
- c. Additional two employees
- d. More pellets from 50kg per month to 100kgs per month to cater for expanded rabbits population.
- e. More space
- f. More land to plant fodder and put up new cages
- g. Security guard
- h. A computer for easier record keeping.

Wynnestart's Uniqueness of product

Wynnestart rabbit hub particularly concentrates on bunnies as the product and also other rabbit products like the meat, urine and manure. A doe which is a female rabbit can give birth to around 3-10 bunnies at a time. The

gestation period a rabbit is one month. Multiple births and less work in maintaining rabbits will make the business a unique venture. With that momentum of the births, the goal is to make this business a multimillion business with a population of 500 - 1000 rabbits. This will make it possible to produce rabbit-related products like samosas, sausages, packed meat for both local market and export. Other rabbit products that are produced include manure, which is sold locally. Rabbit urine which is collected daily is sold to the local farmers as it is used as a pesticide.

Wynnestart's entry into the market and growth strategy

The businesses entered into the market after two months of advertising prior to its opening by pinning posters around the area. Since it is an agro business, more marketing was done after the first produce. It also considered competitive strategy for entry where it offers good quality products at affordable prices unlike the competitors who offer their products at very high prices therefore over-exploiting the customers. Wynnestart rabbit hub is working hard towards building its marketing strategy on a firm foundation of not only getting many customers for their products, but keeping loyal customers through production of high breed bunnies and high quality rabbit products. An informative advertising has been going on to create awareness of rabbit products within the county and the surroundings.

Wynnestart's Business competitive edge

For a business to thrive, the entrepreneur should first target potential customers. The customers can be classified according to their location, occupation, social status and age group. There are homogeneous groups of people who get Wynnestart's products regularly. They include:

i. Rabbit World Company

Rabbit World Company in Nyeri are Wynnestart's main customer for the bunnies. They started with a renewable one year contract with Wynnestart Rabbit Hub as described earlier on. The company buys bunnies at a price of ksh.1000 (USD10) each. (See an illustration on Appendix C).

ii. Individuals and others

This constitutes the largest number of people that the entrepreneur deals with. These are the clients who come to buy does and bucks direct from the farm. (See an illustration of the cages used on Appendix D). Apart from the bunnies, the entrepreneur also sells rabbit products like manure and urine to the local farmers. The future growth of the company visions its market to include supermarkets and hotels.

Wynnestart's SWOT Analysis

The overall strength, weakness, opportunities, and threat analysis i.e. SWOT-analysis is clearly shown in the following chart.

Table 2: Wynnestart's strength, weakness, opportunities, and threat (SWOT) analysis

COMPETITORS NAME	STRENGTH	WEAKNESS	OPPORTUNITIES	THREATS
Competing small scale rabbit farmers	Have the required technical and managerial skills.	Poor location and unmotivated workers.	May receive a tender from Rware primary	Auctioneers may storm the premises anytime due to unpaid loans.
Wynnestart Rabbit Hub	-Good location - Have the Required technical and managerial skills	-Unmotivated workers -Unknown public image	May receive tenders from some neighbouring schools and other outlets.	Trustworthiness of the customers.

Having done the market research, the business is in an advantageous position to compete with the other similar local businesses because Wynnestart has a lot of strengths than the competitors.

Wynnestart's Risks Mitigation

These are proactive measures that are put in place to mitigate against the possible risks and problems. They include:

- a. Maintenance of clean environment in the cages to avoid infections.
- b. Correct use of antibiotics and powder pesticides coupled with regular checkups by veterinary specialists.
- c. Strategic marketing through sensitization of the local population on the benefits of rabbit meat to increase outlets.
- d. Continuous research on rabbit keeping.
- e. Proper training of the employees on the daily basics of handling rabbits and the drugs to administer.

Conclusion

Kenya as a developing country is faced with various challenges which need collective action to mitigate. These include a wide socio-economic gap, youth radicalization, frequent occurrence of droughts and famines within the arid and semi – arid areas, unemployment and underemployment especially among the youth, among others. These challenges justify the country’s commitment of resources towards the Kenya Vision 2030 strategy which aspires to transform the country to a middle-income country with a high quality of life. The Kenya Vision 2030 as a development blueprint is a structured plan of action that shall lead the county to a national-wide provision with better quality of life, and a clean, secure environment for all. The commitment towards achieving Kenya Vision 2030 milestones goes hand-in-hand with the national-wide activities that are geared towards achievement of the Sustainable Development Goals (SDGs) 2030. With a view to fast-track these achievements, the President of Kenya strategically declared the Big Four Agenda in 2017 as well informed for it sets a faster pace of working towards the Kenya Vision 2030 as well as the SDGs by various groups of people working individually or collectively. The president makes it clear that universities must join other stakeholders in working towards the achievement of the Big Four Agenda. Mount Kenya University as the largest private university in the country and in the region takes stock through this paper to confirm that it is working in tandem with the national priorities of the Big Four Agenda through training, research and community outreach. This is made possible in various ways including the works of the Graduate Enterprise Academy (GEA) whose sole mandate is youth empowerment as a community outreach. Through the analysis of this paper, GEA is seen to have committed itself to the execution of the president’s priority areas of the four development targets to be achieved by 2022. While there is still more room for additional up take of activities by GEA on the one hand, the GEA model on the other hand is seen to be a case that can be replicated at a wider scale to serve as a national catalyst in leading to youth edification as a necessity in Africa today and in the next few decades to come.

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Appendix A: WYNNESTART'S CERTIFICATE OF INCORPORATION

Form BN/3
(358626)

(r.5)

REPUBLIC OF KENYA



THE REGISTRATION OF BUSINESS NAMES ACT
(Cap. 499, Section 14)

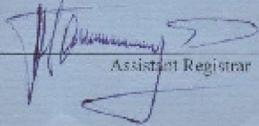
CERTIFICATE OF REGISTRATION

I hereby CERTIFY that ESTHER WAINOI NDIGA carrying on business under the business name of

WYNNESTART ENTERPRISES

at PLOT NO 54 KIRINYAGA ROAD KIRINYAGA, P.O. BOX 11-10303 WANGURU have/has been duly registered under Number BN/2016/414870 pursuant to and in accordance with the provisions of the Registration of Business Names Act and Rule made thereunder.

Given under my hand at **NAIROBI** on 14TH MARCH 2016


Assistant Registrar

Appendix B: WYNNESTARTS' COPY OF A SALE RECEIPT FROM RABBIT WORLD CO.

RABBIT WORLD
Economic Empowerment Program, Yes To Rabbit Journey

RabbitWorld Tel: 0701 562 556 / 0722179119 / 0772827503 / 0721944959 / 0722 148 262

No. **676** Date: 12/09/2015

RECEIVED from ESTHER WAINOI NDIGA
the sum of Shillings Forty Three thousand only

being payment of Purchase of Rabbits

With thanks
RABBIT WORLD LTD.
P.O. Box 1743 NYERI

43,000/-
Cash/Cheque No.


for: Rabbit World

Appendix C: WYNNESTART'S PROPRIETOR DISPLAYING SAMPLES OF HER PRODUCTS FOR SALE



Appendix D: A PHOTO OF WYNNESTART'S RABBIT CAGES



Destination Development for Entrepreneurial Tourism in Lake Bosomtwe and Kintampo falls (Ghana)

Vida Commey

Kumasi Technical University
Kumasi, Ghana
email: vicom3000@gmail.com

Monica Frimpong

Sunyani Technical University
Sunyani, Ghana
email: ami_2150@yahoo.ca

Harrietta Akrofi-Ansah

Kumasi Technical University
Kumasi, Ghana
email: firakoansah@gmail.com

Priscilla Osae-Akonnor

Kumasi Technical University
Kumasi, Ghana
email: proakonnor@gmail.com

Evelyn Catherine Impraim

Kumasi Technical University
Kumasi, Ghana

Dr Eudora Hagan

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Dr Felix Engmann

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Abstract

The tourism industry is one of the world's largest industries (direct, indirect and induced Africa has the potential with its cultural and natural resources to outpace other regions in attracting valuable tourism dollars. The main aim of the study is to improve visitor experience on the two tourist sites. To do this it is necessary to explore the elements and success factors of Tourism Destination Development and using these as a checklist to identify the strength and weaknesses of the selected Tourist Destinations in Ghana West Africa. The rationale behind the study is to outline the crucial Destination Management (DM) criteria of all aspect that contribute to boost ultimate visitor experience, articulating the roles of the different stakeholders and identifying clear actions for effective Tourism Development in Ghana. The interview technique was employed to collect data from staff and management of the selected destinations. Data was analyzed for themes related to elements, success factors and challenges of destination development and new ideas for development was also solicited. It was revealed that some of the elements that feature for tourists' attraction are good hotels, high hygiene and sanitation standards, good food and activities of amusements. Competency gaps identified suggest collaboration with academia to secure a high level of knowledge through research in this present world of dynamism. Some of the critical success factors found are: systematic provision of cultural events, advance knowledge of agents and tour operators and quality leisure and recreation. It is recommended that product and service development should be a joint idea of all stakeholders. The research team therefore, have plans underway to proceed on the second phase of the project: that is to gather resources together to make lake Bosomtwe and Kintampo falls sites attractive to tourists.

Keywords: Tourism Destination Development, Tourism Destination Management, Ghana, Rural communities

Introduction

Tourism has become an important source of revenue for most countries in the world. As an attractive tool for economic development, tourism has assisted many developing countries to obtain income apart from agriculture and manufacturing (Sharma, 2004). In spite of recent challenges, including health problems such as Ebola, change in visa regulations in South Africa and contraction of the global economy, the sector has significantly seen economic growth and job creation across the continent (Hospitality outlook, 2017). The tourism industry continues to be one of the fastest growing and most vibrant sectors of Africa's economy. Emerging markets such as Ghana and Ethiopia saw a significant growth in international tourism over the period 2005-2015 (Hospitality outlook, 2017). The majority of African countries, particularly those in Sub-Saharan Africa (SSA), are now embracing tourism as a potential tool for economic development and poverty alleviation, given the failure of traditional sectors such as agriculture to bring about meaningful socio-economic development. This is mainly due to tourism's potential for foreign exchange earnings, job creation, revenue generation for governments through taxation, and for both forward and backward linkages through the multiplier effect. Nonetheless, Fayissa *et al* (2007) observes that whereas tourism development has contributed significantly to the economic growth of developed countries especially through foreign exchange earnings, the full potential of the industry to do the same in Africa is yet to be realised.

Ghana's tourism sector has been visualised as a major potential engine of growth and development since the 1970s. Efforts to systematically provide the enabling environment for its development never materialised economically until the 1996-2010 Plan was formulated and launched. Chapter 8 of the 1996-2010 Plan tackled, *inter alia*, the economic impact of tourism on the Ghanaian economic and provided the case for the prioritisation of the sector (Ghana Tourism Overview 2012). The trends in tourist arrivals during the last plan show that the sector has been undergoing a steady growth. For the current National Tourism Development Plan - 2013-2027, it was projected to rise quite rapidly from the 2010 level of 746,500 to 993,600 in 2013; with receipts of USD 1.5 billion in 2017; 2.5 billion in 2022; and 4.3 billion in 2027. These are conservative projections, which will depend primarily on the policy stance of government. It is in this respect that the political will of the government to prioritise the sector is deemed crucial. Ghana's year-round tropical warm climate along with its wildlife; exotic waterfalls such as Kintampo waterfalls as well as the largest waterfall in West Africa, the Tagbo Falls; Ghana's coastal palm-lined sandy beaches; caves; mountains; meteorite impact crater lakes such as Lake Bosomtwi make Ghana the place to be (citifmonline.com/2015).

Amuquandoh, (2008) asserts that excessive tourism development in the Lake Bosomtwe basin could reduce the aesthetic beauty of the basin and thereby destroy the main attraction that draws visitors. The authors share this view and therefore focus on the aspects that will not touch the heritage but rather conserve it. The research focuses on the elements of development which enhance tourist experience and promote sustainable tourism. Travelling from Accra to Kumasi and from Kumasi to Abono or any of the surrounding villages just to see a Lake is not worth it. The same reason applies to Kintampo falls. The site is beautiful and attractive and can be viewed on the internet as well so to make it a great and lovely experience for tourists, some value must be added to make it a memorable experience. This study explores the elements and success factors of Tourism Destination Development and using these as a checklist to identify the strengths and weaknesses of selected Tourist Destinations in Ghana, West Africa.

The rationale behind the study is to outline the crucial Destination Management (DM) criteria of all aspects that contribute to boost ultimate visitor experience, articulating the roles of the different stakeholders and identifying clear actions for effective Tourism Development in Ghana and in Africa.

Literature

A tourist destination is defined as a geographical location which attracts visitors for its unique object of attraction. Tourists always need something to see and then other things to keep them relaxed, happy and occupied. They seek novelty, adventure, freedom and change. Thus, a tourist destination must exhibit natural or cultural value, historical significance, natural or built beauty, and also offer leisure and amusement.

Elements of Tourism Destination Development

The elements of a tourism destination are a complex one. All tourist destinations are actually a combination of products, services, and experiences, with many different stakeholders involved. Tourism has received considerable attention in the economic development strategy of Ghana and Africa as whole. There is considerable expansion in both public and private investment activities in various tourism sub-sectors and also steadily increase in the number of tourist arrivals and amount of tourist tourists' expenditure. In 1993, the Ministry of Tourism was established by the Government of Ghana (GoG) to provide technical support and commitment towards tourism development in Ghana. World Tourism Organisation (WTO) and the United Nations Development Programme (UNDP) provided assistance to the Ministry to prepare and develop a 15-Year Tourism Development Plan for the period 1996 to 2010. A report by WTO (1999), Ghana was placed eighth in 1998 from seventeenth 1985 and was among Africa's leading tourism revenue earners. The report further indicates that there was steadily increase in tourist arrivals in Ghana from 114,000 in 1998 to about 348,000 with average growth rate of about 20%. International tourism and tourist's expenditure receipts grew at an average annual rate of 41.3% from about \$55.3 million in 1988 to about \$285 million in 1998. This makes tourism in Ghana the third largest earner of foreign exchange currently, ranking behind mineral and cocoa exports.

Success factors of Tourism Destination Development

Globally, destinations offer various products and services to visitors featuring different attributes and characteristics, making each destination unique. The success factors of each of these destinations may differ, making the management process more complex. Researchers in the tourism industry describe the industry as a cross section of industries and businesses and an interaction between stakeholders to meet the needs and everyday requirements of business travellers (Saayman, 2009). Tourism includes all trips related to a traveller's employment or business interests; frequently, the reason for business travel is to attend business events such as conferences and meetings, exhibitions and trade fairs, incentive travel and corporate hospitality events. Due to these activities in the industry, Davidson (1993) report that government's local authorities and private companies are getting into tourism development because it brings with it a range of economic benefits such as foreign exchange and international trade, employments and balance of payments. Tourism has also proven and continues to be the only effective vehicle for bringing people of different cultures together. Tourism is a vehicle for development and that it is without doubt one of the major social and economic phenomena of modern times (Sharpley and Telfer, 2000). The World Travel and Tourism council

and governments have recognized tourism as a crucial Development resource, a global competitive business, and the fastest giant income earning and an employment generating industry.

According to Manners (2011), it has been found that the type and nature of the tourism operation influences the critical success factors (CSFs) for effective management and those CSFs should be identified for each sector, since it may differ between sectors. The CSFs can be determined by focusing either on the demand or supply side depending on the focus of the industry research. Researchers mostly use the quantitative approach. The most frequently found CSFs identified from a supply side are in order of importance: human resources, effective financial management, customer-related approach, quality services and quality facilities, good marketing, effective systems and hygiene. Studies by Haven-Tang et al. (2007) and Burger and Saayman (2009) focused on the CSFs for managing a conference center. Even though Northern business tourism (Northern America, Pacific Asia and Europe) possesses some characteristics which are parallel to those in Southern business tourism, these two areas of tourism display differences too (Rogerson, 2015). Competition and growth in the tourism industry makes it important to understand CSFs management and understanding these factors can lead to the success of business tourism within Ghana. These improve the industry, leading to the success of individual tourism ventures within the destination, and also boosting the development of Ghana as a business tourism destination.

Crucial Destination Management criteria that will boost ultimate visitor experience

Marais (2009) reports that managing attractions or destinations for visitors, management is creating and contributing to a visitor experience. The importance of a visitor experience is highlighted by Sheng and Chen (2011) who state that not only does management need to understand visitor experience, but they need to take cognizance of the fact that both the tangible and intangible attributes of a destination or attraction play a role in creating a memorable experience. A memorable experience depends on how satisfied visitors are. Cohen (1979) states that managers need to understand that the level of satisfaction differs from visitor to visitor, which will also have an impact on the experience of each visitor concerning factors such as landscape, natural beauty, services provided and quality product. It is therefore not enough just to know why people visit a national park, but park managers need to have a clear understanding of the factors that influence this experience (Saayman, 2009). Sheng and Chen (2011) define visitor experiences as the opinions and functions (transport and food), sensory stimulation (attractions), and the emotional description (bored or interesting) of the visitor. According to Saayman (2007), the visitor experience is, in general, a product of five integrated phases. In the first phase there is the planning, (2) then the journey to the destination, (3) the experience at the destination, (4) the return journey and, lastly, (5) the recovery phase.

Shaw and Ivens (2002) add that the physical performance and emotions evoked by the destinations are a blend of visitor experience, which is measured against visitors' expectations across all barriers and one cannot ignore achieving visitor satisfaction (Erasmus, 2011). Based on this, Boshoff, Landman, Kerley and Bradfield (2007) indicate that there are three main factors on which visitors and their satisfaction depend. These are: expectations, perceptions and experience. An expectation is what visitors expect to see based on familiarity or previous experience (Shiffman and Kanuk, 2007). Visitors' perception is the process by which the visitor selects, organizes and interprets different stimuli into a meaningful and coherent picture (Shiffman and Kanuk, 2007). According to Shaw (2005), the interaction

between a visitor and the destination, which is dependent on physical performance, senses stimulated, and the emotions that are evoked where each of these aspects has an impact on the visitor's expectation (Moore, Petty, Palich and Longenecker, 2008).

Management must identify the areas that they consider as important to achieve the ultimate visitor experience and direct the operational activities to accomplish the organisation's goals (Caralli, 2004). Management needs to clarify the priorities for the entire organisation so that all the employees have benchmark criteria to work from. All of the organisation's activities or initiatives that take place within these key areas must ensure high performance that consistently enables the organization to achieve its goal of creating a memorable visitor experience (Caralli, 2004). These characteristics or conditions, referred to by many, have a direct and significant impact on the effectiveness, efficiency, and viability of an organisation's programme.

Roles of different stakeholders

A stakeholder is a group or individual who can affect or is affected by the achievement of the organization's objectives (Freeman, 1984). Research on stakeholders and their role in tourism development meets with identifying four stakeholder categories: tourists, residents, entrepreneurs and local government officials (Goeldner and Ritchie, 2003). According to Savage et al. (1991), stakeholders are risk-bearers and have financial or human capital at risk depending on the organization's behavior and describe stakeholders to have an interest in the actions of an organization and the ability to influence it (Savage et al., 1991). Weaver and Lawton (2002) posit that a tourism sector includes accommodation, transportation, food and beverage, tour operations, travel agencies, commercial attractions and merchandizing of souvenirs, and the sum of industrial and commercial activities that produce goods and services mainly for tourist consumption. Broad categories of a tourism destination comprise of different complementary and competing organizations, multiple sectors, infrastructure and an array of public/private linkages creating a diverse and fragmented supply structure (Pavlovich, 2003).

The local community is a participant in development of tourism decision- making, community comprised of residents, local government, local business organizations, and local institutions and associations (UNWTO, 1993). Researchers suggest industry and government as the most important stakeholders to be involved in tourism projects (Madrigal, 1995; Timur and Getz, 2008). UNEP (2005) observes that stakeholder participation in tourism development requires harmonized development that is ecologically responsible, socially compatible and economically viable. However, to achieve this in a fast changing tourism sector, fragmented with diversity of stakeholder interests, multitude of regulations, varied levels of authority, and competition, Arnstein (1970) developed a typology of participation, which is dated but best illustrates participation, based on three categories: (1) non-participation when stakeholders have had no input: (2) Degrees of tokenism occurs when stakeholders are allowed to voice their interests but have no power to influence decisions: (3) Degrees of citizen power involve giving stakeholders the ability not only to voice their interests but also to influence decisions being made.

For participation to be empowering, stakeholders need to be involved throughout the process and know that their participation has the potential to influence decisions (Carmin, Darnall and Mil-Homens, 2003). Gunn (1994) states

that stakeholders must be involved throughout the entire planning and management process, not just the initial stages. Susskind and Cruikshank (1987) recommend that for stakeholder involvement to be successful the involvement must be fair, efficient, provide knowledge, wisdom and stability. They posit that if stakeholders perceive these five elements to be present in the decision making process they are more likely to be involved.

Research suggests that failed tourism strategies can be attributed to poor communication and excluding stakeholders from decision-making and catering to the demands of only a few stakeholders (Sheehan and Ritchie, 2005). The aim of effective stakeholder participation is to reconcile differences among stakeholders toward goal-sharing and building trust on a wider acceptance of plans, policies leading to balanced community development and the tourism industry at large (Andriotis, 2005). Hall (2008) emphasizes that stakeholder participation must be undertaken through collaboration and a vision of common goals where the concerns of industry stakeholders are articulated to decision makers stating: "it becomes imperative that government at all levels, uses its influence to encourage greater industry coordination on planning issues by creating structures and processes that enable stakeholders to talk to each other and create effective relationships and partnerships". The tourism sector at the destination is dynamic and creates business opportunities, jobs, income and a wide range of tourism services comprising of residents, local government, local business organizations, local institutions and associations with the onus on the public sector to manage constant change (UNWTO, 1993).

Clear Actions for effective Tourism Entrepreneurial Development

Tourism development is not achieved in a short time and still it is developing. The development of tourism is facing competition all over the world between the tourist destinations and attempt to fascinate more tourists through marketing procedure and policy. Promotion is one of the most important elements which include several action plans to inform the current or prospective customers about the development of a good product, its price and availability. Tourism promotion means trying to encourage the actual and potential customers to travel to a destination through the spreading of information. Promotion is one of the most effective marketing elements used in marketing a tourist product. The objectives of promotion that are consistent with the general marketing plan is to identify the target group to which the promotion is conducted, to find out the effective advertising, sales support and public relations programs to be planned, and to select the best methods to be used to control and assess the promotion operation. (Baldemoro, 2013).

Planning in the tourism industry is another form of effective tourism entrepreneurial development. A report by the World Tourism Organisation (2009), suggests that planning is for the benefit of people, and they should be involved in the planning and development of tourism in their areas. Through this participation, tourism development will reflect a consensus of what the people want. Also, if inhabitants are involved in planning and development decisions and if they appreciate the benefits that tourism can bring they are more likely to support it.

Table 1: Tourism entrepreneurial innovative ideas

Factor	Dimension	Source
Information technology	Developments in transportation allow passengers to travel faster and easier, which will open up new markets. A study on ICT driven and supported innovations in tourism considers that the right ICTs and freedom of passengers during the organization of their travel are innovations in tourism that are gaining an increasing importance.	EU-Lex, (2011) Keller (2004)
Products/Services	Typically, when a tourist spends his holidays in a destination, he does not consume a product of only one supplier, but a bundle of services as a whole. These come in the form of the development or introduction of new materials, intermediate products, or new components or product features. These innovations are directly observable by customers and are considered as new. Examples of these innovations in restaurants are new menu items, new systems of service, or a new restaurant concept.	Kaspar, (1991) Camison and Monfort-Mir, (2012) Hjalager (2010)
Process	The use of new equipment or increased automation, new and more efficient methods of production or the use of new energy sources. Restaurant kitchens offer many avenues for process innovations such as food service technologies for faster and better preparation methods, energy and labour savings, waste reduction and better sanitation	Camison and Monfort-Mir (2012) Rodgers (2007)
Organization	This focus on dealing with new ways of organising internal collaborations, directing and empoweling staff, building careers and compensating workers with pay and benefits.	Lee and Koh (2001) Thomas and Velthouse (1990) Ottenbacher and Gnoth (2006) Hjalager, (2010)
Marketing	marketing innovations are identified as the introduction of new marketing methods, which include changes in product design, promotional strategies, and price. The behavior in the market, which includes relationships between other parties such as state and other regulatory systems, societal organisations or specific customers. Examples of marketing innovations in restaurants are the use of social networking sites in promoting the business or customer loyalty programs.	Camison and Monfort-Mir (2012) Sundbo, (1998)

Methodology

The study adopted the exploratory approach with desk research to explore into the concept of tourism destination development and entrepreneurial innovative ideas that can be used

The study areas

The Lake Bosomtwe, a popular tourist destination is situated in the Ashanti Region of Ghana, West Africa. It is located at the southern portion of Ashanti Region and is within the Bosomtwe-Atwima District Assembly. It shares a common border with Atwima, Ejisu-Juaben and Kumasi districts to the North and in the East by Ashanti- Akim, the southern section by the Amansie East and West Districts. The Lake Bosomtwe basin falls under two districts of the Ashanti region and is occupied by 22 small villages most of them with population less than a thousand people. The northern side of Bosomtwe Atwima Kwanwoma has 12 settlements and Amansie East has 10 settlements. The basin is located in the forest belt of Ghana which has potentials such as natural and cultural resources for tourism development.

Kintampo Water Falls

Kintampo falls is one of the highest waterfalls in Ghana. It is located on the Pumpum river, a tributary of the Black Volta, about 4 kilomwtres north of Kintampo municipality, on the Kumasi-Tamale road. This waterfall is one of the major natural attractions in Ghana. Kintampo is about 2-3 hours drive from Sunyani. The Kintampo waterfalls was closed down for eight months after a freak accident that occurred in March, 2017 leading to the death of 18 people mostly students and tourists. It is however, documented that the waterfall is enjoying massive patronage after it was rehabilitated and re-opened.

Population

The study was restricted to two selected popular destinations, one in the Ashanti region and one in the Brong Ahafo region of Ghana. The choice is deliberate because the researchers realised that the concept of destination development can be applied to both destinations without any problem. The population chosen was in line with the proposition of Yin (2003), who rightly points out that, a case study with more than one unit of analysis is an embedded case. The population therefore consisted of staff and management of the selected tourist sites of the Ashanti Region and Brong Ahafo region of Ghana. However, tourists who were on site at the time of data collection were also interviewed to authenticate the findings.

Data Collection and analysis

Data was collected from Management staff and tourists using a structured interview questionnaire formulated using tourist destination development criteria. Data were organized into themes according to the criteria and discussed descriptively.

Results

Table 2: Situational analysis of Lake Bosomtwe and Kintampo Falls

Criteria	Lake Bosomtwe Situational Analysis	Kintampo Falls Situational Analysis
Personal safety and security.	Road network to lake Bosomtwe is still very poor.	After the accident, the security service has increased.
The destination can be easily reached.	The destination cannot be easily reached due to the poor nature of the road and the location of the site.	The destination cannot be easily reached from the town to the site, there is no direct transportation.
Overall cleanliness of the destination.	There is no proper sanitation at the site. Litter all around	Sanitation is now at its best at the site. Cleaning is organized.
Unspoiled nature.	There is nothing particular that will attract you to the place apart from the lake. Nature is preserved.	There is no spoiled nature. Nature demonstrations is beautiful at the site.
Climatic conditions.	The landmark, nature and climate make the site fine to visit.	Climate condition makes it attractive to visit especially the breeze.
The quality of the accommodation (hotel, motel, apartment...)	There is no proper recreational centre there but only a guest house.	The managers are now considering doing that but currently there is none.
Friendliness of the local people.	The residents are very friendly	The local people do not visit the site that much of which if they do, will promote the turn up of number of people.
Organization of the local transportation services.	No organised transportation to the site.	Transport service to the place is not efficient. There are no cars that work regularly and frequently at the site.
The offer of local cuisine.	There is a great offer of local cuisines like fried tilapia and palm wine	There is no local cuisine specially offered at the site or even close to the site.
Possibilities for shopping.	There is no possibility for shopping unlike Kakum national park where cultural stuff is sold.	There is no possibility of shopping.
Night life and entertainment.	There is no night life entertainment for tourists.	There is entertainment but not close to the site.
Opportunity for rest	There is less opportunity for rest except one guest house close by.	There is an opportunity for rest.
Systematic promotion of cultural events	There is no proper promotion of culture, the only culture display is during occasions.	No organized cultural display
Advance knowledge of agents and tour operators	Town folks share knowledge about the site themselves and serve as tour operators. No trained tour operators	Tour guide shares knowledge about the site
Tourist Motivation	There is nothing particularly that will attract you to visit the site apart from the lake.	Do
Quality leisure and recreation	There is no proper recreational centre there but only a guest house.	Do
Receptivity of the residents	The residents are very receptive	
Richness of culture, history & heritage	There is no demonstration of rich culture	History is well organized and narrated

Criteria	Lake Bosomtwe Situational Analysis	Kintampo Falls Situational Analysis
Protection of heritage (history, traditions, qualities) Social & economic stability	There is a promotion of heritage	Do
Communication	Communication is another problem, there is no proper communication channel as in advertisement and promotion of the site which can reach out to people.	Same here but a little better
Conservation of cultural value	The cultural value is highly conserved.	Do
Protection of biodiversity	Protection of biodiversity is highly observed at the site, there are different kinds of animals and plants and fishes as well mostly tilapia.	Do
Cost of travel	Cost of travel is high due to the location of the site and the nature of the road.	Do
Security	Security is very low, there is no professional tour guide to guide tourists through their visit	There is a tour guide

From Table 2, most of the things that interest tourists and make their visit memorable are not present at these tourist sites. As Eu-Lex (2011) rightly said development in transportation allow passengers to travel faster and easier and also helps to open up new markets. Without good road network it is difficult for businesses that involve travelling to go on. More organized transportation is needed to connect tourists to and from the sites. It was also found that apart from the natural attraction, no other product or service is developed to attract the visitors. This Camison and Monfort (2012) agreed that it is not the best because tourist do not consume a single product but a bundle of services as a whole.

Some of the suggestion's tourist made to improve the tourist sites were as follows:

1. Improve road network leading to Lake Bosomtwe and Kintampo Falls: Roads and transportation is another sector that the tourism sector has a direct relationship with. Tourist need ground transportation to get to tourist sites.
2. Recreational centre or facility: You cannot talk about tourism without rest place, food, drinks, playing ground. A recreational centre should be created at both lake Bosomtwe and kintampo water fall.
3. Event centre on Lake Bosomtwe: How lovely will it be when you party on water? An event centre should be created on lake Bosomtwe to host weddings, ceremonies, parties, birthdays etc.
4. Walk way on the lake Bosomtwe and kintampo water falls: A walkway should be created on Lake Bosomtwe to raise funds for municipal assembly.
5. Provision of life jacket: Cruising is a good money-making venture, but lack of life jacket is reducing cruising on lake Bosomtwe. Life jackets should be provided to encourage and improve more patronage.

6. Provision of trained tour guides: More tour guide should be trained to tell the real stories behind Lake Bosomtwe and kintampo water falls. This will help create a memorable experience for the tourist to revisit to the destination.
7. Replacement and introduction of more cruising boats at Lake Bosomtwe: The only cruising boat at Lake Bosomtwe is weak and old. To encourage more tourist to Lake Bosomtwe, new and modern cruising boats should be introduced on the lake.
8. Local restaurant at Lake Bosomtwe, kintampo and Ejura: We should exhibit our identity by establishing local restaurants to serve only local foods and beverages at these places.
9. Promotion of Ghanaian cultural heritage: Kente weaving centres and artefacts shops should be located in and around Lake Bosomtwe.
10. Marketing Lake Bosomtwe and kintampo water falls on both international and local platforms: There is the need to repackage and put Lake Bosomtwe and kintampo water falls on all available platforms to bring more visitors to the country.
11. Health and wellness centre: There should be a health and wellness centre at Lake Bosomtwe and kintampo water falls to provide first aid, body massage, clinic and fitness for guests.

Conclusion

The study sought to find ways to improve visitor experience at the two tourist sites. The research team found out that some of the issues they can help to address are sanitation and hygiene conditions which are at the lower level at both sites. It was also revealed that instead of waiting for the government to develop the sites, the community should be brought on board to transform the image of the sites. The research team has plans underway to visit the chiefs of the surrounding villages for assistance to mobilize the youth in cleaning and other exercises within their power to help transform the tourist sites.

Recommendation

Based on the conclusions drawn from the study, the team wishes to call all stakeholders to do what it takes to develop the tourist sites. It is recommended that product and service development should be a joint idea of all stakeholders. The team of researchers are beginning their part during the first semester of their academic school year to educate the community on how important it is to take part in the development of the sites.

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Dr David Rempel is involved in numerous projects focused on research in understanding and defining successful talent development systems within Kenya and Ghana (especially with projects sponsored through DAAD - Deutscher Akademischer Austauschdienst).

One of the foci of his research is systems that effectively develop entrepreneurial talent among youth and young adults within the Kenyan context and has led to being very involved in the German African Entrepreneurship Association, researching and assisting with conferences.

Before joining the academic world, at the IUBH – International University, David was involved in the private sector both in Canada and Germany. He served in various functions, as the director of employee development in two different companies in Canada, with a focus on developing high-potential employee programs and then later in Germany building up his own consulting services, as well as, both in teaching and coaching in the international business world. At the same time, he never lost sight of the vision to research on “Gifted and Talent Development”.

Lisa Schmitt was born in Bamberg, Germany in 1992. In the same year her parents moved to Namibia where she was raised and finished her scholar education in 2010. After the completion of a vocational training to become a chef in Germany, she obtained a bachelor's degree in Hospitality Management from the International University Bad Honnef Bonn (IUBH). In 2015 she moved back to Namibia where she worked for the *Okambara Elephant Lodge* their family owned business. She successfully completed the training as a Namibian Hunting Guide in 2018. Her active involvement in wildlife management in Namibia inspired her to write this research paper.

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German-African University Partnership Platform for the Development of Entrepreneurs and SMEs

Overview

The labour markets in Africa provide graduates who have sufficient theoretical skills but exhibit a lack of practical experience. The project therefore aimed to increase the capacity of African universities for practice-oriented teaching and research. In addition, awareness of the potential of the African markets among German SMEs should be raised and they should be given the opportunity to get involved by exploiting the advantages of a university partnership platform.



Corporate partners played a crucial role in the project as they provide universities with knowledge, requirements and needs to help them to improve the academic practice-oriented teaching and research and increase the employability of their graduates. At this juncture, the project conceptualized “win-win” cooperation models which led to direct benefits for companies and universities.

The project activities included the establishment of a “Section for Applied Market and Personnel Services” in Ghana and Kenya to advise German and African SMEs and start-ups, the implementation of practice-oriented courses and research, the development of business incubators in Africa and a yearly business plan competition. In addition, the exchange of students and staff, and annual conferences aimed at building and disseminating know-how on connecting academia with the corporate world.

The project started in February 2015 as part of the “University-Business-Partnership programme” funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the German Academic Exchange Service (DAAD) and ended in December 2018. The project was carried out by the Bonn-Rhein-Sieg University of Applied Sciences (H-BRS) in Germany, the University of Cape Coast (UCC) in Ghana and the University of Nairobi (UoN) in Kenya. Various corporate partners contributed to the project.

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